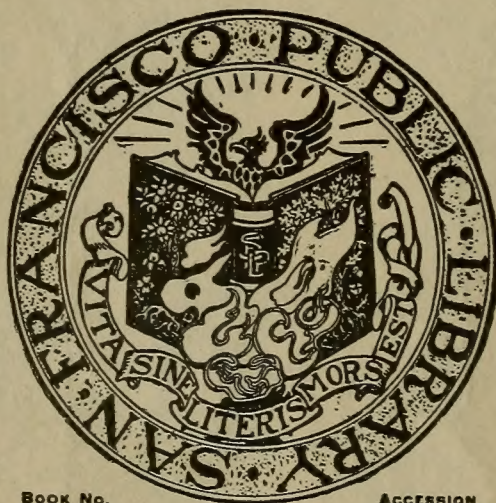


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A Photographic Monthly

George Allen Young, Editor

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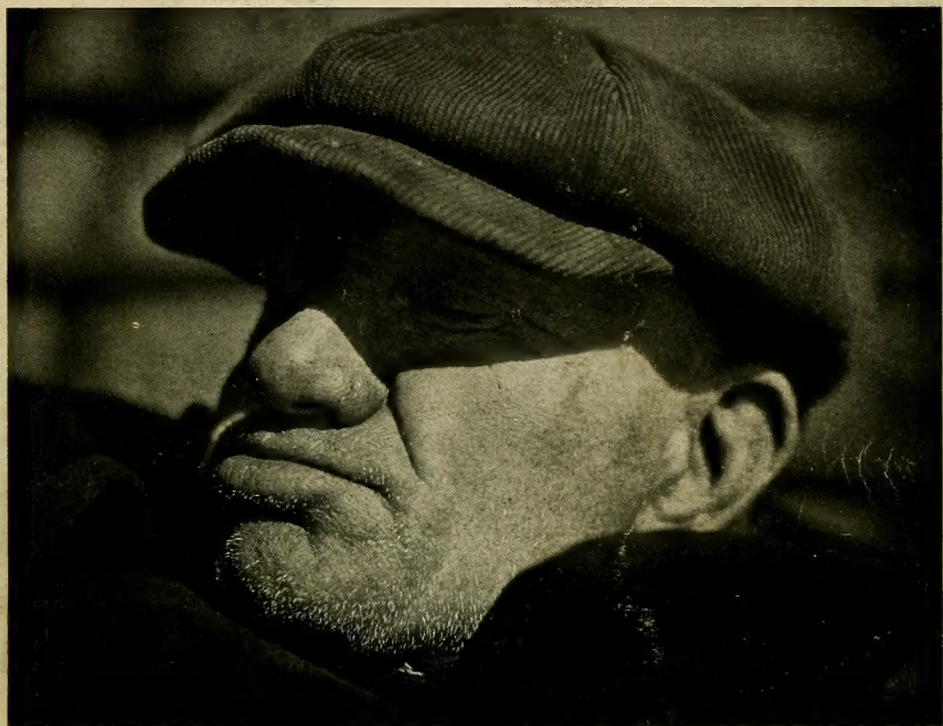
Volume XLV January to December, 1938

Agfa Ultra-Speed Pan, A Report On.....	Harry Champlin	172
And What of The Future?.....	Harry Champlin	29
Book Reviews	51, 100, 248, 346, 396, 539	
Candid Camera, Let's Be Candid About the.....	William Mortensen	3
Carroll, Amateur Photographer, Lewis.....	Flodden W. Herron	507
Champlin No. 15 Fine Grain Developer, What We Think of The.....	Helene Sanders, F.R.P.S. and Morris Germain, A.R.P.S.	9
Champlin 16.....	Harry Champlin	503
Children Are People.....	Thomas Welles	21
Cinema Section	Edited by William A. Palmer	
Club Notes.....	44, 92, 144, 240, 292, 340, 389, 533, 583	
Color Back, A Practical One-Shot.....	Arthur E. Stultz	556
Color Exposures, Measuring Incident Light for.....	Cinema Section	520
Color For the Miniature Camera.....	Edwin C. Buxbaum	14
Color Harmony For the Photographer.....	Henry Weller, Jr.	55
Color, In Defense of.....	Gordon F. Cronkite	456
Color in Photography.....	William Mortensen	201, 251, 301, 399
Competitions, Monthly.....	35, 85, 137, 187, 233, 284, 332, 381, 431, 477, 525, 573	
Continuity in Films of Children, Put.....	Cinema Section	568
Contrast, Fighting Gross.....	H. W. Wagner	308
Copying Easy, Unique Scale Makes.....	Nestor Barrett	314
Correspondence	388, 532	
Development, Double Image.....	Karl A. Baumgaertel	274
Developing Tank Air-Relief, A.....	R. C. Alexander	227
Developer, The Miniature.....	William Mortensen	351
Developers, The New Eastman Films and Champlin.....	Harry Champlin	554
Diffusion Rather Than Confusion.....	Hillary G. Bailey, F.R.P.S.	550
DuPont XL Pan, A Report on.....	Harry Champlin	216
Eclectic Photography.....	Paul Louis Hexter	407
Fades and Dissolves.....	Cinema Section	133
Figurines as Teachers.....	William S. Davis, 35, 178, 469	
Filter Use, The Elements of.....	Karl Barleben, Jr., F.R.P.S.	121
Glamorization!	Maurice Seymour	359

Hands	<i>Alda Jourdan</i>	424
Infra-Red Photography.....	<i>B. W. Leroy</i>	166
Judges, A Warning To.....	<i>J. H. Sammis</i>	128
Judges, In Defense of the.....	<i>Paul Louis Hexter</i>	356
Kodachrome Exposure.....	<i>Dudley Haskell</i>	110
Kodachrome, Getting the Best from.....	<i>Cinema Section</i>	427
Kodachrome, What About Large Size.....	<i>Nestor Barrett</i>	563
Korling, Torkel.....	<i>Al and DeVera Bernsohn</i>	493
Lighting in Mountain Photography.....	<i>Albert Ervin Thompson</i>	368
Love, Honor and Lament.....	<i>Lorine W. Garrett</i>	223
Model, The.....	<i>H. G. Cox</i>	512
Motion Pictures Are a Deception.....	<i>Cinema Section</i>	473
Mount, A Testing.....	<i>Edna R. Bennett</i>	79
Negatives, A Method for the Classification of.....	<i>Earl G. Baird</i>	461
Negatives, Handling, Proofing and Filing Miniature.....	<i>Frank A. Holmes</i>	218
Negatives, Notes On Duplicating Miniature.....	<i>W. Bruce Shields</i>	64
Nots and Comments.....	45, 95, 146, 194, 242, 293, 342, 391, 438, 484, 534, 584	
Questions and Answers.....	<i>Cinema Section</i> , 186, 430,	572
Parallax and Close-Ups.....	<i>Cinema Section</i>	80
Photographic Bench.....	<i>T. E. Euler</i>	75
Photographic I.Q.?, What Is Your.....	278, 339, 380, 438, 484, 532,	567
Photographic I.Q.? Answers to, What Is Your.....	291, 347, 388, 440, 489, 538,	586
Photography In Japan.....	<i>Nicholas Haz</i>	105
Photography Of Pyrotechnics.....	<i>Albert F. Smith</i>	317
Pictorialism For Beginners.....	<i>Harold Grainger, F.R.P.S.</i>	70
Portraits of Men.....	<i>Stanley R. Jordan</i>	413
Portrait, What Is a Good.....	<i>Tracy Webb</i>	153
Projection for Exhibition Booths, Daylight.....	<i>Cinema Section</i>	228
Projectors and Low Power Shows, High Power.....	<i>Cinema Section</i>	328
Realism, The Quest for.....	<i>Cinema Section</i>	280
Salons, For Smaller and Better.....	<i>Paul L. Anderson</i>	266
Shadows On Snow.....	<i>H. W. Wagner</i>	543
Sound Pictures, Producing 16mm.....	<i>Cinema Section</i>	375
So You Want Help, Eh?.....	<i>J. H. Sammis</i>	566
Still Photography and The Concept of Movement.....	<i>Walter Bunnell</i> , 258,	321
Stroboscope and Motion Pictures.....	<i>Cinema Section</i>	31
Switch, A Practical "Hi-Lo" Photo-Flood.....	<i>H. Carl Schmidt</i>	174
Tricks of the Trade.....	<i>George Wright</i>	208
24 Sheets	<i>Charles Kerlee</i>	445
Wipes, Slides, Swipes and Zooms.....	<i>Cinema Section</i>	182

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Henry Karlin

From Fourth Annual Zeiss Ikon Exhibition

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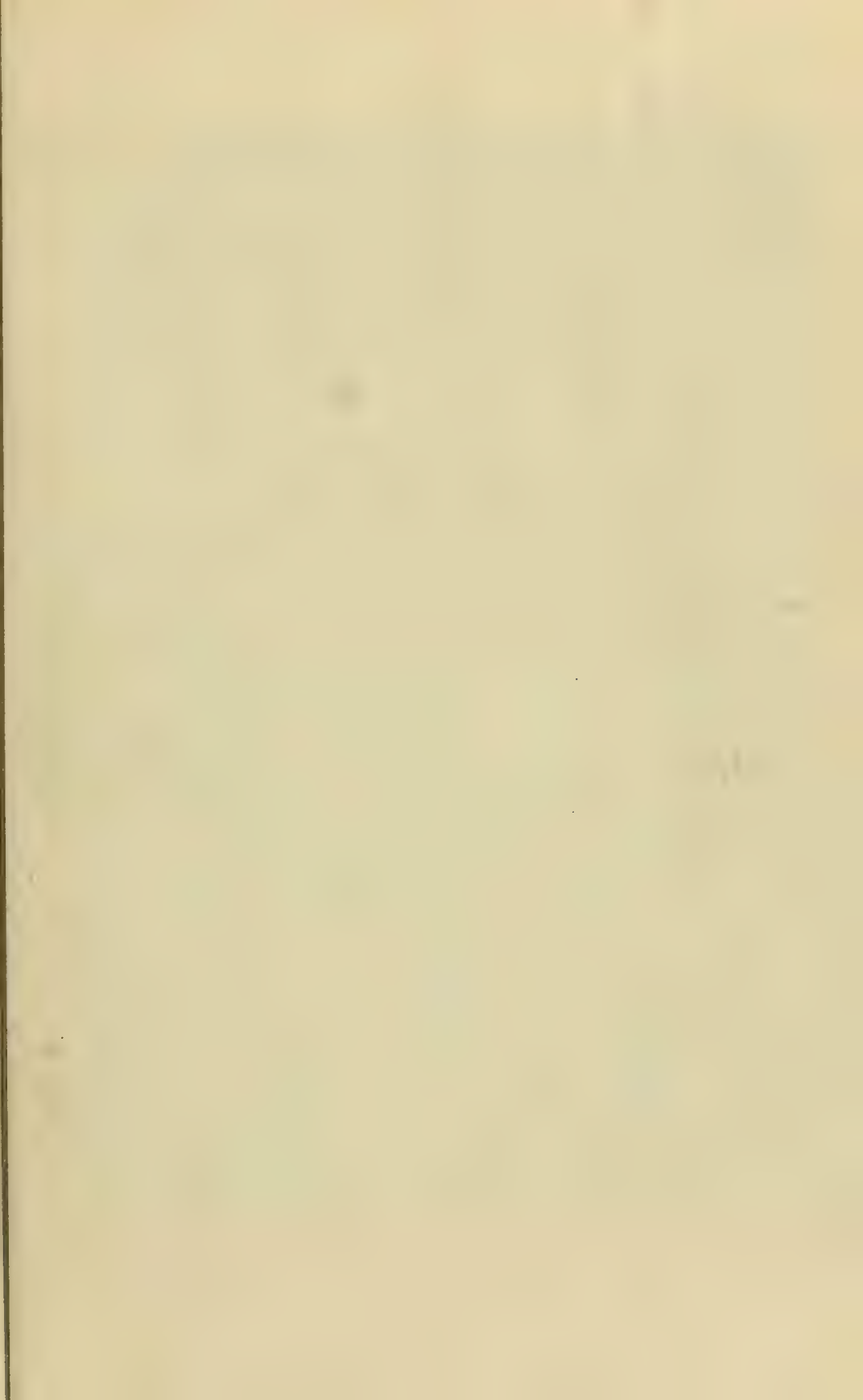
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"Kutab Minar, Delhi"

Mary Thille

Let's Be Candid

About The Candid Camera

William Mortensen

WHEN future social historians set down the foibles, failings and idiosyncrasies of the Thrilling Thirties, what will they choose as the symbol of this period which we more or less adorn? As the Nineties are marked by the flowering of the shirtwaist, so the Twenties remain in memory as the time of Flaming Youth and bathtub gin. What wry feature of our own epoch will stick in the memory of posterity?

It may be slightly morbid to speculate concerning what people will say about us when we have departed, but the temptation is irresistible.

I am inclined to think that this age will be remembered by its heraldic bearings of a camera *couchant* quartered with an autograph album *rampant*. Its patron saints will be Thomas and Paul—Thomas the Peeper and Paul surnamed Pry.

This is the period of the Collapse of Privacy. Time was, not so very long ago, when a man was conceded certain primary rights to his own person, countenance, thoughts and emotions. But no more. Let anyone attain to the slightest degree of eminence or notoriety, and he will wake to find reporters sitting on his bed, cameramen in the bathroom, and autograph hounds lurking on the front steps. One of the major accomplishments of the boys Thomas and Paul was to drive from our shores a worthy gentleman who had the misfortune to be a national hero.

A most important instrument in this concerted invasion of the National Privacy has been the camera; in particular, the miniature camera. The minicam has achieved this doubtful distinction because of its speed and cheapness of operation and the relative ease with which it may be smuggled past the doorman.

Thus, by an ironic twist, a marvelous piece of mechanism is dedicated to snooping and morbid curiosity. Had Oscar Barnack foreseen that the

NOTE: The pictures accompanying this article, including the frontispiece, were made from miniature negatives.

little contraption he was working on in 1913 would some day be manipulated by fat old gentlemen hiding under tables in night clubs, he would doubtless have dropped it forthwith into the ashcan.

The minicam, as thus used—or misused—has come to be known as the “candid camera”. This happy phrase has proved to be the rallying point for a whole unhappy tendency. It began mildly enough: a few minicam owners striving—usually in vain—to get a few record shots of people in the crowds at the races, the prize fights. This activity was healthy and harmless—even though it did not add anything to the prestige of photography. But presently it was discovered that the minicam had an unholy faculty for catching people with their defenses down, for invading the very privacy of their thoughts. So the candid camera fell into the prurient hands of Thomas the Peeper and Paul surnamed Pry. Under the influence of ill-concealed libidinous curiosity, the candid camera has developed into a morbid mass mania like the witchcraft persecutions, the epidemic of tarantism in the Sixteenth Century and the South Sea Bubble.

So every public gathering place, every private retreat, every scene of unpleasantness, becomes the rendezvous of camera-gawkers and camera-snoopers. Wherever Other People’s Business is accessible, there you will find assiduous button pushers.

The climax of this Candid Camera Era is attained in a spawning of cheap and nasty little picture magazines. Some (that make a pretense of respectability) are on coated stock, and some are on newsprint—but they are all dedicated to Bigger and Better Keyholes. The reading matter in these journals is negligible; their sole excuse is pictures—pictures that plumb hitherto-unimaginable depths in bad taste, in sadistic exploitation of human pain and degradation, in morbid sensationalism, in coprophilic pawing over the rubbish of old scandals. Newspaper files are searched for pictures that were once considered too foul, too shocking or too pathological for publication, and they are spread abroad for all too see. We herewith achieve an all-time low in publishing practice. We have heard of the alleged “fourteen-year-old mind” of the average public. But these sheets hit a lower level still. They are geared to the mental processes of a nasty-minded nine-year-old.

If, in the midst of all these excesses, there were some evidences of genuine photographic achievement or pictorial imagination, one might feel constrained to forgive some of the bad taste and bad manners of the candid cameramen. But such achievement is conspicuously lacking. The photography is just as bad as the taste which inspired it.

Indeed, the word “photography” scarcely describes the product of the candid camera. “Photography” implies the intelligent handling of a delicate instrument, careful and clean workmanship during the various stages of a tricky process, and, finally, a *result* that is competent both photographically and pictorially. Few of the candid camera workers are worthy of being considered photographers. Most of them are mere button-pushers. They push one button and the elevator stops for them, they push another button and the radio plays, they push a third button and they secure a sort of replica of whatever they had their camera pointed at. Indeed, the muscular force exerted in pushing the button is about their only con-



"Myrdith"

William Mortensen

tribution to the "pictures" that they secure. For most of them, after a night's debauch of button-pushing, drop their films off at the corner drug store to be developed and printed.

Despite the appalling childishness and absurdity of the whole tendency, it cannot be lightly disregarded. For, by a strange twist, this lunatic interloper in photography seems to be corrupting the sounder minds about it. One cuckoo egg has gotten into the nest, and all the other fledglings seem to be turning into cuckoos too.

If the candid camera were just another rather more spectacular manifestation of the mentality of the "lunatic fringe", we could regard it with the same tolerance that we accorded (in days gone by) to Fletcherism, Mah Jongg and miniature golf. But it has gone too far for that. The lunacy shows signs of corrupting the taste and unbalancing the judgment of those who should know better. And so the preposterous comes to pass, and photographic ideals are systematically degraded to conform to the practice of these folk who know (and care) nothing about photography.

For example: A recent announcement of a salon which up to now has favored sound and skillful photographic work states that hereafter it will seek to exploit the use of the camera for casual and chance shots—in other words, the candid camera. This is as though a symphony orchestra should dismiss its trained musicians, and should cherish, as something of superior musical worth, the fist-thumping of infants on the piano key-board. In the latter manifestation we have something spontaneous and natural, fresh and untrammelled (favorite words of the candid apologists); but who the hell cares to listen to it—except the child himself, and his deluded parents?

The whole candid camera tendency is based on an abuse of a beautiful instrument. The best of the miniature cameras are marvels of precision and compactness. To use these sensitive and delicate instruments for such stupid and banal purposes is like using a watch to drive nails with.

The precision of the miniature camera does not make it fool proof. Quite the contrary. The improvement of the camera demands an equal improvement in the skill of the hand that holds it, in the intelligence of the mind behind it, and in the quality of the subject matter in front of it. At the age of eleven, with my Brownie No. 2, I did a great deal of candid camera work (we called them "snapshots" in those days) which I would gladly stack up against the average work of the candid cameraman of today.

In all the recent pother about the candid camera, we have almost lost sight of the real abilities and logical functions of the miniature instrument. Let us review a few of these.

In the first place, it is admirably suited to portraiture. Many professionals are of late employing it for this purpose. For dealing with a certain type of camera-conscious subject the minicam is invaluable. A person who is apprehensive and afflicted with inferiority complexes by the imposing dimensions of an old-fashioned portrait camera is able to regard a minicam with confident condescension. With a minicam a photographer can cheaply and easily take a large number of exposures of every sitting, thereby making his results much more certain. The small camera



"Sun Break"

William Mortensen

emphasises the larger masses and significant contours in the subject, and automatically suppresses much of the smaller (and frequently unflattering) irrelevant detail.

The field of creative pictorialism is another in which the miniature is at home. The factor of improvisation that enters into most work of this sort is materially aided by the facility and cheapness with which a large number of variants may be made of the same subject. The minicam's predilection for broadly effective masses is also happily realized in this field.

Landscape offers further scope for this tendency to emphasize the more salient and significant masses and contours in the subject. These larger structural elements are the particular province of the landscape artist, and his plan is spoiled by the intrusion of niggling detail. The portability of the minicam is a further advantage to the landscape worker. Such a picture as *Sunbreak*, for example, would have been almost impossible to secure with larger equipment—unless one had the assistance of a pack-burro.

The convenience and portability make the miniature an idea camera for travel record shots. The best of these are not only fine photographic renderings, but excellent pictures as well. *Kutab Minar* is one of the many outstanding miniature camera record shots that Mary Thille (whom

I am privileged to claim as a pupil) brought back from a journey to the far places.

And in ultra-skillful hands the miniature is capable of producing quite amazing results in the field of "pure photography"—the rendition of surface differences and textures. Ansel Adams, in a brief passage with a Contax, showed brilliantly that the thing could be done.

Although a larger camera (traditionally, a $3\frac{1}{4} \times 4\frac{1}{4}$ or 4 x 5 Speed Graphic) is generally employed for journalistic work, a number of the best newspaper photographers have turned to the miniature instrument. Its extreme portability and facility in handling make it the logical camera for this job, although the small negative demands much more careful processing than usually prevails in newspaper darkrooms.

And this is the delicate and versatile instrument that contemporary fashion has suborned to trivial purposes of snooping at keyholes and spying on people's actions and thoughts. Happily, relief seems to be at hand. Like the South Sea Bubble to which we likened it, the final frantic phase of the Candid Camera contains within itself the germ of its own dissolution. The larger it gets, the more imminent and resounding the final blow-up. Already we see signs of the approaching collapse. The nasty little magazines that we have mentioned are becoming every day noisier, nastier and more numerous. Each one goes a few steps further than its predecessor in daring. The titles grow steadily more aggressively monosyllabic. We have not yet seen *Hey!* or *Whoops!* on the news-stands; but we undoubtedly will tomorrow—or the day after. Each newcomer screams Murder, Rape, Guts and Gore more raucously than its competitors. They are all getting purple in the face from the effort. The public is becoming a little amused at the spectacle. And when the public becomes amused, the end of the epidemic is at hand. Like a pestilence, the candid camera craze is burning itself out.

* * * * *

And when the candid camera passes into the Great Silence—what then?

Primarily this: The miniature instrument will come into its own again as a fine camera instead of a psychopathic symptom.

For the future of photography will undoubtedly be realized in terms of the miniature. But it will be important merely as a *means to the picture*. Photography in the future, as in the past, will advance through the efforts of two types of workers: the technically competent professional, and the eager, serious amateur to whom photography opens a fresh vision of the beauty of the world.

What We Think Of The Champlin No. 15 Fine Grain Developer

Helene Sanders, F.R.P.S.

Morris Germain, A.R.P.S.

WHEN the first rumors filtered through on Champlin's theory of development, we must admit that we were a bit skeptical of the claims made for a developer that would compensate for so much under-exposure. To quote from *CHAMPLIN ON FINE GRAIN* " * * * this developer will permit shooting at unbelievable speeds. DuPont Superior and Eastman Super-X films can be exposed in daylight at 64 Weston and under artificial light at 24 and 32 Weston. This is practically impossible with any other developer * * *."

That some developers have more energy than others is well known. Every professional photographer worthy of his name knows how to take advantage of high and low energy characteristics in a developer. The problem is of course much greater with under-exposed negatives than with those that are over-exposed. Over-exposure and low energy development are quite compatible. Something *can* be done about over-exposure. But under-exposure more often than not winds up as under-exposure, in spite of all that can be done with high energy development. Keep in mind that we are referring to tolerable under- and over-exposure, not gross under- and over-exposure. To give half enough exposure has always been considered as gross under-exposure. So when Mr. Champlin handed us his No. 15, with a strange assortment of chemicals and told us that this developer would give full-timed negatives at double the usual Weston rating—well, that was too much for us old-timers to take at face value. We decided to find out for ourselves, and we made a thorough job of it! We didn't want to miss a good bet. If No. 15 didn't work, well, that would be just

too bad for Mr. Champlin. But if it did work and we didn't take the trouble to find out, that would have been a lot worse for us.

First, in a very thorough manner, we studied *CHAMPLIN ON FINE GRAIN* from cover to cover. Then we procured a bottle of No. 15 fine grain developer from the stock house. We also made up a quantity of *carefully* compounded *CHAMPLIN NO. 15* of our own. These two different batches were used alternatively in our experiments. This was done to check on our ability to make up the *CHAMPLIN NO. 15*. A chemist's or professional photographer's skill in compounding developer is essential.

All our experiments were done on 35 mm. film with three candid cameras of a popular make.

Carefully calculated exposures, made on Dupont Superior, Agfa Super Pan and Eastman Super-X film at 64 Weston (day-light) gave *full timed* negatives. The shadow detail and gradation was all that could be desired. The highest densities were not blocked out. Twenty diameter enlargements on glossy paper showed no sign of grain. Thirty diameter enlargements showed a slight amount of grain that was not displeasing. None of that objectionable very coarse grain was encountered. We didn't attempt amplification beyond thirty diameters with the fast film. Panatomic and Eastman Background film were exposed with the meter set at twice the speed of their inherent emulsion speed. The same full tonal quality was secured as with the faster film. No sign of under-exposure was evident. They had all the characteristics of full-timed negatives. As anticipated the fine grain quality was higher than with the faster film. Thirty and forty diameter enlargements were made without showing any sign of grain. Due to lack of time we didn't try other brands of slow film comparable in speed to Panatomic and Eastman Background. We may venture the opinion that all slower speed film would respond equally well. At the time we were making these experiments we were not interested in enlargements beyond forty diameters. You must remember that a forty diameter enlargement from a 1 x 1½-inch negative makes a 40 x 60-inch print; quite an impressive size. How much further we can go beyond forty diameters *without showing grain*, remains for future tests. Some day we will try still bigger enlargements.

It is an established procedure in research to repeat an experiment many times. This constant duplication of certain effects produced with a developer assures the worker of its practicability. We have made many repetitions in trying the *CHAMPLIN NO. 15* and found that it does everything Champlin claims for it. As far as we are concerned *CHAMPLIN NO. 15* is the fine grain developer for us.

To be assured of success in your first trials with *CHAMPLIN NO. 15*, it is suggested that you buy a bottle, rather than attempt to make it yourself. Be sure that it is of manufacture endorsed by Mr. Champlin. Due to the unselfish generosity and highly ethical attitude of Mr. Champlin, any one without license is permitted to compound and sell *CHAMPLIN NO. 15* developer. Unfortunately a percentage of the labeled Champlin developers do not work like the real Champlin developer should.

Only those who are thoroughly capable should attempt to make



"At Rest"

John Thomas Hick

Fourth Annual Zeiss Ikon Exhibition

CHAMPLIN NO. 15. The makeshift kitchen or bathroom compounding with more or less inaccurate scales and glassware will not do. Accurate balanced scales that are sensitive to 1 grain differences are essential. Accurate thermometers and graduates are very important. Ordinary tap water cannot be substituted for distilled water. Chemicals must be of pure and reliable brand. It is advisable that two equally efficient people should work together, so each can check the other, thereby minimizing the chance for error.

We made all our experiments in duo fashion. We checked and cross-checked each other's experiments and we feel that we have weeded out as much error as is humanly possible.

Making a hodgepodge mixture of questionable chemicals in water is a poor substitute for a dependable developer. Particularly does this apply to the compounding of **CHAMPLIN NO. 15**. The procedure as prescribed by Champlin for making his developer must be slavishly adhered to. Don't try to make changes or substitution in the chemical components to improve the **CHAMPLIN NO. 15**. That should be left for the research of the photo chemist, to whom photography is a secondary interest.

We are continually consulted by many photographers on photographic problems and we had our share of innumerable queries for and against the Champlin developer. After tracer questioning to find out the source of trouble for some deficiency or other, we invariably discovered some infidelity to compounding or processing.

Temperature is very important. Our best results were obtained at a *sustained* temperature of 73° F. *All through the developing, short stop, fixing and washing time the temperature was not permitted to drop below 72° F., or rise above 74° F.* Working at 70° F., the results were quite comparable to 73° F. Working at 65° F., which Champlin does not recommend, definitely produced "undertimed negatives." Developing at 73° F., short stopping, fixing and washing at various lower temperatures, produced good quality negatives with a poor fine grain characteristic; eight to ten diameter enlargements produced objectionable grain (reticulation and clumping). Mild agitation during developing, short stop and fixing time *must* be practiced.

The hardening stop bath made of chrome alum and sodium bisulphite is indispensable. Its use is recommended with any negative developing process. It hardens the gelatin, prevents reticulation, clumping and scratches.

Any standard acid hardening fixing bath is recommended. It should be used for *one* fixing and *discarded*, or reserved for fixing negatives of a non-fine-grain variety.

Washing should be limited to fifteen minutes. Continued running water should be employed with five complete changes during washing time. If you wish to prove the efficiency of the fifteen minute washing time for 35mm. film, make a permanganate test for the presence of hypo. It will give a negative finding.

After washing, wipe the free water from both sides of the film with a viscose sponge and hang up to dry in a cool airy dust free place. The ideal drying time is one hour or less.

Our admiration for Mr. Champlin's work is not hero worship. We don't know him personally; we wish we did. We do know though, that after protracted practical research in the application of his theory of development that he has contributed new and valuable procedure to the science of photographic negative processing. For this, the photographic profession is very much indebted to Mr. Champlin.

Since this article was written a new high was reached in film speed by the emulsion makers. The Agfa Ansco Co. has released a limited quantity of 35mm. Ultra Speed negative material with a Weston rating of 128 for daylight and 72 for Mazda light. To date the quantity released was so limited that we had difficulty in securing a few feet for experimental purpose, but we got hold of some, never mind how.

Now here was a grand chance for some experimenting with the *CHAMPLIN NO. 15*.

We first made some trial shots at correct, above and below Weston rating and developed the film in a trusted fine grain developer other than *CHAMPLIN NO. 15*. This was done to test the emulsion speed the Agfa Ansco Co. claim for the Ultra Speed film. We found that this new film has all the speed claimed for it.

We followed up this experiment with development in *CHAMPLIN NO. 15*. A strip of 35mm. Ultra Speed film was exposed in Mazda light at 144 Weston. The Weston meter registered a light reading of 4. The lens aperture was set at F2. Five different exposures were made at 4½ feet from the subject (portrait of a young lady). The correct exposure was a 200th of a second. The four complementary exposures, over and under, were a 60th, 100th, 500th and 1000th of a second. Every one of the five negatives developed in the Champlin developer made good prints! The best negative was the one made at 200th of a second. Excellent prints were made on normal paper, developed in a normal M Q developer from the negatives exposed at a 60th, 100th, and 200th of a second. An excellent print was made from the negative exposed at 500th of a second on normal paper developed in a contrast M. Q. developer. An excellent print was made from the negative exposed at 1000th of a second on contrast paper developed in a contrast M Q developer. What strikes us as being remarkable is that the 1000th of a second exposed negative was printable at all! Truly, we found not only additional speed with *CHAMPLIN NO. 15*, but a large measure of gradation and latitude.

A practical test for grain was made by enlarging on glossy paper—10 15. 20 30 and 51-inch enlargements were made. These measurements were made in the vertical 1½-inch direction of the negative. We found that the 10-inch enlargement was free from grain, the 15-inch enlargement showed a slight amount of grain and from there on grain size increased in proportion. We believe that this new high speed film is coarser grained than its slower predecessor. No attempt was made to circumvent grain. By selecting a suitable matte paper and resorting to a bit of trickery in projection printing the grain quality could have been much improved.

Color For The Miniature Camera

Edwin C. Buxbaum

THERE'S something new in miniature photography and that is color! Not the dark colors of the old color plates of twenty years ago with their silver emulsion covering the plate but glorious color in every shade of the rainbow accurately reproduced in detail hardly ever seen before in the photographic emulsion. Kodachrome has given new life to every miniature camera enthusiast. If you have once examined a roll of Kodachrome when it is returned to you from the finishing station and seen the separate pictures, each like a jewel in a string of precious beads, you are a color enthusiast forever.

At present, Kodachrome is only available for cameras that use 35mm. film such as the Leica, Contax, Exakta and many others and for the Bantam Special. It seems to be generally understood that larger sizes will be available later. Kodachrome in the 18 exposure roll for 35mm. film cameras now costs only \$2.50 for the roll. After examining a roll of the finished pictures, you will agree that the price is reasonable. The film comes in a daylight loading cartridge with a yellow exterior to distinguish it from other cartridges. The film has a peculiar bronzy appearance which somehow seems to indicate the complexity of the process. Loading the film presents no difficulties except that it is important to move the film three exposures before taking any pictures. Again, on taking the last picture which is the eighteenth, it is important not to wind the film any further or the end may be taken off the spool which necessitates the use of a darkroom and possible handling of the film which is extremely delicate.

It is generally known that Kodachrome is available in two emulsions, the regular Kodachrome which was first on the market and another type which was prepared especially for use in artificial light, called type A. Which shall the amateur use? Well, the Weston speed of regular Kodachrome is 8. If however this film is used for taking color in artificial light, a special filter must be used which cuts down the light value to Weston 3. This is too slow to be of much use. In addition, if you use the regular



"Polphemus Moth on Grapevine"

Edwin Way Teale

From "Grassroot Jungles" by Edwin Way Teale

Fourth Annual Zeiss Ikon Exhibition

Kodachrome outside for long distance shots such as are encountered all the time when traveling, you will need a haze filter in addition which needs no correction. So, if you use regular Kodachrome, you will need a special filter which cuts down your speed and another to take the "blueness" out of distance haze. Now, if you use Kodachrome Type A all the time as many amateurs do, you have a film which has the rating of Weston 12 which is quite fast and as fast as many regular black and white emulsions. If you want to take pictures by daylight, all that you need is a special rose tinted filter made especially for this film for daylight which cuts down the speed to 8 which is the same as the regular Kodachrome. The advantage is the faster speed by artificial light and the fact that only one filter is necessary and you are ready for all types of work. Therefore, use Type A Kodachrome and buy one filter.

Taking the picture with Kodachrome has been made somewhat difficult for many amateurs because of the frequent warnings to beware of the small latitude available in this emulsion. This warning is, of course, very important since under exposure gives colors which are not true and dark blues and violets never present in the picture are seen in the color film. Over exposure is just as bad for then the film presents a peculiar thin and washed out, faded appearance that is very disappointing. The secret of course is correct exposure. A reliable exposure meter is almost the first requirement for good Kodachrome and intelligent use of the meter is just as necessary. A meter of the photoelectric type is the best for this work. When using the meter, take many readings; not just one aimed in the general direction of the scene being taken. If you are taking a picture involving sky, dark foreground of grass and trees and perhaps some people, you must realize that there are many different light values existing side by side. Unavoidably, there will be parts of the scene that will be underexposed and some that will be overexposed. All photography is a kind of compromise in the matter of exposure but in black and white, the wide limits of the latitude of the average film take care of most errors. Not so with the color film. Wrong exposure means wrong colors. Fortunately, skies usually are the brightest part of a picture. And still more fortunately, when skies are overexposed, the color becomes a deep azure which may not be accurate reproduction of the original but which is most beautiful nevertheless. For this reason, one can afford to favor the foreground. It is best to take an average of the various readings or to determine the reading of the most important object and let the less important objects be incorrectly exposed. In general, it will be found that this is best. It is for this reason that instructions are generally given that an even lighting without heavy shadows be used since under such lighting conditions, accurate color reproduction can be obtained. However, even lighting is not always possible and some compromise must be obtained. From the results of such pictures, it can be seen however, that there is some latitude to the film anyway in spite of the fact that the latitude is not that of the black and white emulsion. One might go so far as to say that a picture which is incorrectly exposed one half stop on either side of the correct opening will still be very good. A picture incorrectly exposed for one full stop on either side of the correct stop might still be very beautiful although somewhat incorrect in color rendition. Further deviance than



"Winter Wonderland"

Dr. M. A. Obremski

Fourth Annual Zeiss Ikon Exhibition

this results in the typical dense off color shots obtained by under exposure or the thin transparent, faded results obtained by over exposure. But, the correct exposure, and it really is not hard to obtain, gives pictures that are beautiful beyond words.

Even in copying colored objects with a miniature camera and one of the many copying devices available for such work, it was found that large differences in lighting were observed over a small area. The copying of a small painting three by four inches gave Weston readings from 10 to 60 over this small area. The picture was a portrait and the light shades of the face gave readings around 50. The dark colors of the clothes gave readings as low as 10 while the background gave readings around 30. Obviously, the sensible thing was to favor the colors of the face and background. A "weighted average" of about 45 was used to determine the exposure with almost perfect results. When copying small objects and using the meter to determine the light value, make sure that you do not measure the shadow thrown by putting the meter in front of the source of the light.

Interiors under artificial light using Kodachrome Type A are really simple. Here we have controlled lighting. I have used four No. 2 photo-flood lamps in reflectors to light an area approximately 10 by 20 feet in dimensions with perfect results. Of course, here it is best to use flat lighting

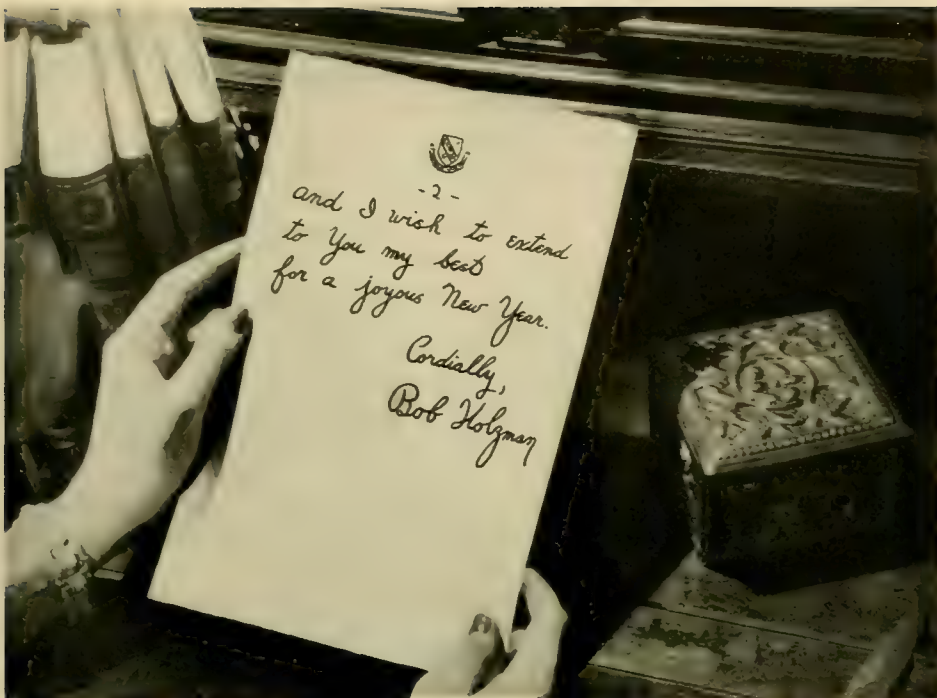
as recommended by the manufacturers. At first, it is the impression of many amateurs that certain colors might not be true to the natural colors. Some will say, for instance, that the yellows are off, or the reds are too blue or some such statement. I think they will find however that right exposure gives a color fidelity in this process that is nothing short of remarkable.

A knowledge of the results of under exposure is very valuable when it is desired to exaggerate for any particular reason. Of course, the most valuable use of incorrect exposure is over exposure for skies which results in darker skies than are seen. Sometimes, it is purposely desirable to slightly underexpose a well lighted scene to give a little more "depth" to the scene.

A peculiar property of the color film is an apparent stereoscopic effect. Color pictures seem to literally stand out as do no others. Enthusiasts of the stereo picture who now use color film are said to be further "gone" than ever before! Another advantage of the film is that all processing is taken out of the hands of the amateur. This has its advantages. In the first place, many possible sources of error are eliminated in a process which has its difficulties largely confined to exposure. And it is a great convenience to send the films off by mail and receive them back ready to mount. Every time I affix a one and one-half cent stamp on the little label which is attached to the little cloth sack in which the film is sent through the mails, I feel qualms about it. What if it should be lost? Or stolen? Or fall out of the postman's bag? Well, I have always received every film and none has been lost but I believe that if I had a series of rolls such as are taken frequently by amateurs on trips and vacations, I would send them registered.

When the film comes back after about a week or less it is received in a roll with a thin sheet of tissue paper next to the emulsion. It seems that the Kodachrome emulsion is especially prone to small specks of dust and dirt which are easily embedded in the emulsion. Once in a while such a speck appears and efforts to dislodge are futile. In that case, do not force the removal of the foreign object for injury to the film is very likely to result. If you do scratch the film, you will not notice a clear space as you would in a black and white negative but a green space which appears to be the top layer of this complex emulsion.

Color films can be looked at in several ways. You can leave the film in roll form and hold the pictures up to the light but this method is not recommended. The best way is to mount them between glass slides. To do this, you must purchase glass slides, masks and mounting tape. The two inch squares which are used for the small pictures can be purchased anywhere today or glass companies will cut them up for you for about two dollars a thousand. Two cover glasses of this size are used for each slide. The masks are of paper and are frequently of black, silver or gold. They can be used single or double but a mask on either side of the film makes a neater job than one alone. The mask covers the perforations of the film and leaves the picture alone for projection. Masks are available which are double and joined together. This is a more convenient method of using a mask than using two single masks which have to be individually aligned when mounting. The tape which is used can be the regular heavy paper which is used on large lantern slides but it is better to use the Cellulose Acetate tape which is now available in several colors. This is thinner, makes a neater appearance and certainly sticks.



"For a Joyous New Year"

Robert S. Holzman

Fourth Annual Zeiss Ikon Exhibition

A certain procedure is necessary to make a neatly bound slide. First make certain that the glass slides are spotlessly clean. Then lay a mask down on one of the slides and place the film which has been cut off the roll on the mask or between the mask if it is a double one. Use a camel's hair brush to remove any dust on the film itself. Then lay the top cover glass over the mask containing the film. The whole "sandwich" can be held together with a paper clip while getting ready to apply the tape. Perhaps the best way to apply the cellulose tape is to unroll enough to seal the sides of one edge of the slide first. Make certain that the slide is in the middle of the tape so that you will have the same amount of tape on either side when you come to fold it down. Then unroll more tape for the second side and continue until all four sides have tape sticking on the edges. Cut the tape off and then fold down the tape on the sides of the slide holding the slide tightly together so that the whole mount will remain flat. The procedure sounds more difficult than it really is but it results in smooth, flat slides of neat appearance which fit easily into the projector.

Projecting color slides is, of course, the best way to show them. Large groups of people can see the pictures at the same time and it is much more convenient than showing large prints which can be seen by only a few at a time. This is especially true of vacation pictures which are usually large in number and are a drudge to make in large sizes. A small color print, finished

by the manufacturer and easily shown in a projector is a great convenience and pleasure. Modern projectors are not like the old "magic lanterns" and the use of modern projectors is a far cry from what was formerly available for users of full size lantern slides.

Projectors for small color slides must be powerful enough to throw large images of sufficient brightness and at the same time must be cool, so that no harm will be caused to the delicate color film. Projectors for such film are available from about \$25, and up to several hundred dollars. All of them utilize condensers and some of them have lamps as strong as 750 watts. The size of the image which can be projected from color slides is remarkable. Even a low priced projector can throw images four by six feet or larger in size. Because both horizontal and vertical pictures will be shown, a square screen is to be preferred. My own preference is for one of the screens with a flat surface. That is, not a beaded screen, although these will serve adequately. The detail of the color picture is much greater than that of the average black and white and some of this seems to be lost on a rough beaded screen. When placing the glass slides in the projector, they are placed upside down and consequently they should be marked with a little spot of paper of some kind in the corner which will indicate to the projectionist where he will grasp the slide with his thumb so that he can place it in the lantern for proper projection. This is called "spotting."

An evening with color slides can be very entertaining but some sequence or continuity should be attempted. Title slides can be made in black and white to announce the evening's show. The films should be in some logical order and for this purpose, the Kodak company makes what they call a "sequence box" which holds fifty slides and has several metal dividers in the box so that slides which have been shown can be put in a compartment separate from those to be shown without disarranging a definite order. The box is also arranged so that it can be stood at an angle making it easy to grasp the slides and put them back in the proper order.

There are also available at the present time, several types of metal mounts for color film which make tape and masks unnecessary. They are convenient for mounting films which will be later permanently mounted or perhaps not used again. They can also be used in place of regular mounts but for the average person they are a little too expensive compared with the cheaper glass and tape slide.

Numerous ideas will come to the person who takes color pictures with a miniature camera. Vacation trips away from home can be shown to the folks at home and friends through a few evenings with the projector. Lecturers will find the color slides a magnificent way of teaching which was never possible with hand tinted lantern slides. Schools will find them of immense use and naturalists will have a process which brings nature in all its color. No wonder that it is difficult to obtain masks and slides in many places to mount the slides.

It might be thought that the pictorialist might be against the color film as projection is not the final aim of this class of workers. Nevertheless, I have heard salon exhibitors say that they were going to use nothing but color and this is why! In the first place, the color image has no grain similar to the silver emulsion as all of the silver has been removed. Consequently, an almost grainless image can be produced by making contact prints onto

film. The negatives so obtained can be carried to large prints in the usual manner. Of course, it must be remembered that the color film should be printed on a panchromatic material in order to get true color values in black and white. Many amateurs have nevertheless used orthochromatic materials for this contact printing in order to avoid developing in darkness. Such reproduction which is inaccurate is not as displeasing as one might imagine. For true rendition, however, a slow panchromatic material is probably best. Contact printing is however, not the only method which can be used to obtain black and white prints. Projection of the colored film onto black and white emulsions can also be done without difficulty, resulting in an enlarged negative from which prints can be made by contact or further enlargement from the enlarged negative. The amateur will find that the use of color does not exclude black and white enlargements.

With such an infinity of possibilities available for the amateur, it is no wonder that more and more photographers are finding new pleasure in the use of color. With ever increasing use, we may expect further reductions in price and more accurate and efficient tools for the projection of these beautiful color images. Again I insist; just see one roll of color film properly exposed and you will be a convert to the newest of interests in miniature photography—color with the miniature camera.

Children Are People

Thomas Welles

WHY does one see so few really good child portraits—pictures of children that look as if they might have been posed by honest-to-goodness flesh-and-blood human beings, and not by over-dressed China dolls?—or by dream-creatures, Peter Pans of the artist's fancy?

I think the answer lies in one or all of three lacks: lack of sympathy with and understanding of children, lack of skill in the special technique this type of subject requires, and lack of suitable equipment.

The professional portrait photographer is too apt to adopt a set routine of poses and lighting arrangements, one or another of which he attempts to



Figure 1

fit to the personality (if, indeed, he even recognizes that children *have* personalities), of any child brought to his studio. Moreover, he as likely as not tries to make a satisfactory picture with the same bulky equipment and blinding lights he employs with his adult sitters.

My friends, it just won't work.

However, before we discuss equipment that will help rather than hinder you in putting life and vitality into your child pictures, let's consider for a moment the child subject himself.

You, as a creative artist, would not for a moment think of leading an adult patron to a seat before your camera without first making every effort to gain his complete confidence, and to impress upon him through subtle suggestion the necessity for his co-operation with you in the matter of pose and expression. Is it not apparent that this procedure is of immensely greater importance when you are dealing with the impressionable mind of a child?

Yet how many of us are wont to treat a child subject with grand condescension, endeavoring to inspire confidence and co-operation, not in *him*, but in his parents? Let us not be deceived; the child so treated is damning us in his mind for not according him the attention he rightly feels should be his. If he is well trained he will smile when we tell him to, but it



Figure 2



Figure 4

will be a frozen smile, utterly lacking in the spontaneity of childhood—he will even try to laugh if we tell him to laugh, but it will be a mockery to his spirit of natural fun.

If we would make pictures of children that breathe life and the joy of living we must make each child subject feel that we have been waiting all along for him to drop in to see us, that we are at least as much interested in him as we are in his parents, and that we want him to feel perfectly free to ask questions, or, indeed, to say anything whatever that occurs to him.

All this takes time. It may require five minutes and it may take an hour. In the case of an unusually bashful child it may even be inadvisable to make an exposure during the first "interview," but, after giving his parent a "high sign" previously agreed upon, to tell him we enjoyed talking with him and would like to have him come in to see us again some time (that is, within a day or two).

This procedure of course requires a previous understanding with the child's parents, but practically all parents will readily "fall in" with the idea. Indeed, once they have gained absolute confidence in the photographer, most parents will go to almost any amount of trouble to aid him in making lifelike portraits of their children.

Now as to the equipment: I have found nothing that could even approach the synchronized flashlight, or "speedflash," in achieving natural expressions in child portraits. No child can feel at ease in surroundings entirely foreign to him, and certainly the battery of mazda and photo-flood lights most photographers turn on their adult subjects is a far cry from the child's home surroundings. And speaking of home surroundings, the best results, especially with shy children, can often be attained in the child's own home. Because the "props" used should, in all cases, be extremely simple, no difficulty in the way of choosing a proper setting should be anticipated when working away from the studio.



Figure 3

The speedflash, naturally, calls for a hand camera. My personal choice is the 4 x 5 Speed Graphic equipped with a Carl Zeiss 13.5-centimeter f-4.5 Tessar mounted in a Compur shutter. This comparatively short focal-length permits one to work close to his subject, thus gaining the maximum value from the flash bulb, and, at the same time, insures sufficient depth of focus, even when worked "wide open." When a No. 20 flash bulb is used, however, it will seldom be necessary to use a wide lens aperture, f-11 being about right with super-sensitive panchromatic film at six feet from the subject. The Compur should be set at about 1/100-second for all shots except those in which it is desired to stop very rapid action (such as the falling blocks in Fig. 3) when the speed should be stepped up to 1/200-second.

When working closer to the subject than six feet the lens may be stopped down to f-16, while at ten or twelve feet it should be opened to f-8 or even to f-5.6. (Don't forget that with the speedflash the light source is ordinarily *at the camera*, and "the intensity of light varies as the square of the distance from its source").

In order to insure the brilliancy which alone brings the sparkle of childhood into a picture, development should be pushed considerably farther than is customary in adult portraits. Since super-sensitive pan film must, of course, be handled in total darkness, some experimenting in this line may

be necessary, but it may be taken as an axiom that the child portrait negative is at its best when it is rather "hard," with snappy highlights and definite shadows. This is especially important in view of the fact that most of the prints will have to be made by projection. Indeed, aside from the negative's small size, it will be found that the manual control permitted by projection printing is a vital factor in making outstanding child portraits.

In the posing of children I believe the most interesting pictures result when the child is shown doing *the most advanced thing of which he is capable*. Care should, of course, be taken that he is not pictured doing something which would normally be obviously beyond his ability. Thus, the blocks included in Figs. 2 and 3 *could* have been piled around the baby in Fig. 1, but, since it is obvious that she is too young to play with toys, their inclusion would have struck a false note. As it was, she had just learned to raise her head and shoulders from the floor: *it was the most advanced thing of which she was capable*.

On the other hand, the children pictured in Figs. 2 and 3 had just attained the age when they showed interest in "making things," so they were given an opportunity to display their talents before the camera.

The little girl in Fig. 4 is, of course, too young to read. It would have been silly to picture her with a volume of Shakespeare or Dickens. That the book which appears to (and which actually did) intrigue her is not by one of these eminent authors is shown clearly in the photograph. However, she did enjoy looking at pictures of "farm pets," and that was at least among the most advanced things her abilities permitted at the time the photograph was made.

All of the accompanying illustrations were made with a Mendelsohn Model C Speedgun fitted to the type of camera recommended in this article.

Figurines As Teachers

William S. Davis

Part III. Effect of Viewpoint Upon Rendition

WHEN the question of viewpoint comes up for consideration it is doubtless true that most amateurs concentrate their attention upon the changes of aspect produced by a lateral shifting of the viewpoint.

Varying one's viewpoint from left to right, or in the case of a model turning the figure about, is certainly productive of great changes in visual presentation of material, but so too are the factors of *height* and *nearness* of the eye whenever objects are seen at fairly close range, and it is to these factors and the part they play in rendition that we now propose to call attention.



Figure 1



Figure 2

In its application to figure work, no more convenient method can be found for photographically studying the changes brought about by variations in viewpoint than by utilizing a figurine for a model, for being inanimate there is no possibility of confusion arising from alteration of attitude—consequently, exact comparisons may be made of the differences in rendition due solely to change of viewpoint. Moreover, when using a figurine for making a series of such studies which shall equally apply to renditions of the living figure, one has only to regard the figurine as a scale-model and multiply measurements of camera height and distance proportionately. For example, the cast of the gladiator used in making the accompanying illustrations stands 10 inches high, exclusive of the base, which makes just one-seventh the size of a man 5 feet 10 inches in height. Therefore, multiplying by seven camera distance and height employed would result in similar perspective and foreshortening being shown in photographs of a living model of like type, posed in the same attitude as the small figurine.

Taking up now the illustrations, which were made primarily to show the effect of height of viewpoint. Number 1 is not quite a "worm's eye" view, but rather about what a small dog might see while listening to "His master's voice", the lens having been placed on a line with the calf of the leg. The photograph was made with a $7\frac{1}{2}$ -inch lens on a 4 x 5 camera, the center of the lens being 27 inches from the model and 2 inches higher than the feet. Multiplied by seven in the case of a living figure, the distance would work out at 15 feet 9 inches and height 14 inches. Since approximately 16 feet viewing distance is adequate to avoid anything bordering upon seeming distortion in the representation of a human figure,



Figure 3



Figure 4

the foreshortening and perspective shown in Number 1 is visually correct for such a low viewpoint. But note how this point of sight causes the right shoulder to rise and the left to slope sharply downward, respectively, how the neck is shortened and the head made to appear abnormally small, while on the contrary the legs and hips are emphasized correspondingly. All these details tend to make an isolated figure appear larger than normal.

Number 2 shows the figure from the same distance and lateral point of sight, but with the lens raised to a level with the biceps of the right arm—which can be considered a good average height at which to see the natural proportions of a standing figure. Compare with Number 1 the rendition of such anatomical parts as the head, neck and shoulders, together with the length of the legs in relation to that of the torso.

Number 3 indicates the type of foreshortening that takes place when the lens is pointed downward upon the subject at a 30-degree angle, distance remaining the same between the camera and head of figure. The reversal in perspective lines of the shoulders, emphasis placed upon the torso, and the diminished proportionate size of the legs, as compared with the two previous viewpoints, can be seen at a glance.

Number 4 is an exaggerated rendering of the characteristics revealed in Number 3. The downward angle of view is the same, but with the camera at half the distance from the head of the figure. To keep the size of the image within the bounds of the picture-space, a $4\frac{1}{2}$ -inch lens was substituted for the $7\frac{1}{2}$ -inch used in making the three other studies. The "drawing" is, however, due to the *nearness* of the viewpoint, since this, rather than focal length, determines the degree to which the lines of perspective converge toward the theoretical vanishing-point. However, as an amplification of this statement, it may be noted here that those portions of an image lying close to the marginal field of a lens embracing a *very*

wide angle are, under certain conditions, subject to the radial elongation of form, a type of optical distortion due to the extremely oblique angle at which the image-forming rays come to a focus upon the plane of the sensitive surface. Such distortion is not often encountered, and plays no part in our illustration.

Among the deductions which may be drawn from such a series of viewpoints as have here been illustrated and described are the following:

1. Placing the camera approximately three-times as far away as the height of a standing figure is sufficient to render a visually natural perspective when the whole figure is depicted, but to obtain the most accurate delineation in proportions of the several parts as they exist in the model the axis of the lens should be very nearly at right angles to the vertical plane of the figure. When the latter is in a normal standing posture this means a viewpoint on a level with some portion of the body between the waist and upper portion of the shoulder. A marked change of attitude, as in the case of a figure bent forward or backward, may on the other hand require some alteration in the line of sight to obtain the most accurate rendering of proportions.

2. Lowering the viewpoint tends to increase the apparent proportions of the lower extremities and make the figure seem taller than average, notwithstanding a slight contraction in total height produced by the upward angle of sight. This seeming contraction may be accounted for by the fact that the effect of height comes largely from the trend of perspective in the shoulders and certain other parts, as previously mentioned.

3. A high viewpoint causes the figure to appear below the average height, and in addition gives it a squatty, dumpy, appearance—a rendition that should serve as a direful warning to anyone bent upon making a portrait of a girl who needs to reduce! The head, too, will appear over-large as well as the upper portion of the body.

From the foregoing one should not, however, jump to the conclusion that either higher or lower viewpoints than usual are necessarily taboo. While extremes are to be avoided in straight portraiture, there are occasions where unusual viewpoints are fully justified, either for psychological reasons or because the setting in which the figure is placed possesses elements which in themselves explain the reason for the angle of sight. Such, for example, is the case with a figure standing on a hillside or a balcony seen from below, or figures in a street or small boat viewed from a higher standpoint.

Another matter brought out in our series of studies is the question of determining the actual size of an object where a clue is lacking. In the case of human beings one may form some idea of general size in a pictorial representation if the viewpoint is not too unusual, but when it comes to representations of sculptured figures there is no way of determining the actual size of the originals unless accessory details in the setting are of such a nature as to provide a basis for comparison. This is proven by our illustrations, which in the absence of other objects of known size, appear as though made from a life-size statue rather than a 10-inch figurine. Inclusion of such familiar objects as books or flowers with a figurine to form a still-life composition would, of course, destroy the illusion mentioned, regardless of viewpoint.

And What Of The Future?

Harry Champlin

PHOTOGRAPHY has gone through a metamorphosis which started at the box camera stage and culminated in instruments of precision and excellence far beyond the dreams of a short decade ago. Scientists have been delving into every conceivable phase of photography and their work has led to tiny negatives capable of producing better finished prints than were possible with large negatives of a few years ago. Much has been written on what has happened but very little has been said about the trend photography will take in the next few years.

Everyone interested in photography has a natural interest in the future of photography. During the past year many people have wondered what photography will be like a few years hence, and the persistency of the question has naturally resulted in some thought upon it. It is my opinion that the following statements will become actualities in the near future:

While the 35 mm. miniature cameras will no doubt hold their present widespread and well earned popularity, I think that side by side with a growth in the use of this type of camera there will be a corresponding growth (perhaps even greater) in the use of cameras with slightly larger negative sizes. I particularly look for a more widespread use of the already popular $2\frac{1}{4} \times 2\frac{1}{4}$ -inch (6 x 6 cm.) size. This is a logical size for a negative because you can so easily make a presentable contact print from it.

The film for these cameras will likely be either 65 or 70 mm. motion picture film, which will come into widespread use with the advent of television.

Exposure meters will be built into the cameras and will actuate the diaphragm of the lens. All you will need to do will be to set the shutter speed and the distance, point the camera, and the diaphragm opening will be set automatically.

Cameras of such excellence and precision will be manufactured in America, and a great deal of the foreign supremacy in this field will be overcome.

Emulsion speeds of films will be increased to many times their present ratings. Within two years film emulsions with a rating of Weston 32 will be definitely in the class of slow emulsions. The color sensitivity of these films will be more nearly equal to the color sensitivity of the normal human eye.

Color films will come into general use. The speed of color film will be increased and the contrast will be decreased so that it will be possible to shoot any scene with color just as it is shot with black and white. Color film will be faster than the fastest film emulsion in use today. The colors

will not be as garish as they are now because film manufacturers will be able to incorporate into the emulsion a fourth color which will be either a medium gray or a gray bordering on brown.

Prints from color film will be made on color paper. The color will be right in the paper and will be developed out after printing by either contact or enlargement.

There will be much progress in enlarging lamps so that it will be unnecessary to use special filters for this purpose. All of the present methods of printing from color films will be discarded into the limbo of antiquity.

Optical science will produce faster lenses for special purposes, but due to the remarkable advance which we shall see in the speed ratings of films, there will be a long pause before the public actually adds faster lenses, with their inherent difficulties, to their equipment. Lenses will be made of new types of optical glass and of entirely new substances other than glass. Eventually these new substances will replace glass as the prime lens material. Certain substances other than glass pass ultra violet light and this will open new fields and overcome optical aberrations which we experience now.

There will be research into night light and special film emulsions will be produced with a softer contrast so that night photography will be as practical as photography by daylight.

The gelatine of printing and enlarging papers will be so greatly improved that more tones in a print will be discernible. There will be research into the reflecting powers of paper and a new base for prints will be forthcoming. With larger and better negatives photographers will naturally become more interested in better pictures instead of impossible feats with their cameras, which seem to be the vogue today.

There will be a return to processes such as Carbro, Gum and Bromoil Transfer. In addition, other processes will be available. Because of the interest in better pictures, and a resulting increase in pictorial process work, these processes will likewise see considerable improvement. New methods of sensitizing carbon tissue, new types of tissue and bleaches for the bromoil process will be discovered. Anyone with the desire to do so will be able to make presentable prints with these mediums without the knowledge and laborious effort necessary today.

The chemistry of development will be better understood and with understanding much progress will be made. Developing formula will be in keeping with the progress made in the emulsion making. Development and fixation will be one operation.

There will be noticeable advances made in artistic endeavor, due to the progress made by scientific photography, and photography will be acknowledged as an indispensable medium by the graphic arts.

As this article is being written, one of the prominent American manufacturers announces a new film with about three times the emulsion speed of the fastest film heretofore obtainable. When a new idea or method of procedure is brought to light, everyone working in the same field of endeavor attempts to improve upon it, and this is as it should be. This competition between minds will result in the fulfillment of all of the statements made herein.

Cinema Section

Edited by
William A. Palmer

The Stroboscope And Motion Pictures

BECAUSE of a curious habit of our eyes which causes them to retain the image of something for a fraction of a second after the object has passed from our sight, we are able to have what we call "moving pictures". Actually, as those of us who use the equipment know, moving pictures are purely an optical illusion in which our eyes blend a series of rapidly presented still pictures into the appearance of continuous motion. This ability of our eyes to retain images, called persistence of vision, also makes possible a very interesting device called the Stroboscope. Although not new, the Stroboscope has lately become an important aid to industry, making possible the study of machinery in motion by apparently slowing down or stopping the motion while actually the motion continues at the same rate. The Stroboscope is of value also to the motion picture worker, for it makes possible ultra-slow motion pictures which would be entirely impossible with a motion picture camera of the ordinary type. To the home movie experimenter too, the Stroboscope can be of great service for experiments in synchronizing home films with sound.

The rather formidable word "Stroboscope" describes an instrument that really is nothing more than a flashing light and the visual effect of the flashing light on moving objects. In a sense all our ordinary mazda lights operating on alternating current are "stroboscopic" since they flicker with the alternations of the electric current. But the flicker of mazda lamps, being caused by the alternate heating and cooling of the tungsten filament, is not an abrupt flashing interspersed with periods of complete darkness. Slight as is the flicker of ordinary electric lamps, it does exist, but our eyes don't see it because of their persistence of vision.

A regular Stroboscope has a very intense flashing light which lasts for a very small part of a second. The light source is usually a gaseous tube of neon or mercury vapor. These light sources, not unlike the neon tubes used in advertising signs, have no filament lag like a mazda lamp and can be made to light up to full brilliance and be extinguished instantaneously. It is quite common in a commercial Stroboscope to have the light adjusted so that it flashes for only 1/15000 of a second before going out again. The frequency or number of these quick flashes per second can be regulated to almost any desired degree and whenever they occur at a rate faster than about thirty flashes per second,

the eye does not see a flashing light but an apparently steady one. Yet with flashes of a duration of $1/15000$ of a second occurring thirty times per second, the light is out most of the time! So brilliant is the light while it glows that even though it is out most of the time, it still will illuminate objects to a high level.

Now this apparently steady light which is out most of the time does not show any particular peculiarities when used to view stationary objects, but when used to view moving objects, a strange illusion takes place. Unless the object is moving with extreme speed, each flash of the stroboscopic light will show the object stationary in the position it occupied when the flash occurred. The great value of the light is when viewing any constantly repeated motion such as a rotating gear on a machine. Each flash will give a clear image to the eyes of the position of the gear at that instant, and if the rate or frequency of the flashes occurs so that there is one flash for each revolution of the gear, a series of images will be blended in the eyes to show the gear apparently stationary. In this way, although a gear may be rotating at the rate of a hundred revolutions per second, it can be made to appear absolutely stationary. Furthermore, if the rate of flashing of the Stroboscope is made to be slightly slower than the frequency of the revolutions, the gear will appear to be turning slowly in the direction of its actual turning. If the flashing frequency is made to be slightly faster than the frequency of rotation, the gear will appear to be turning slowly in the reverse direction. Thus it is possible to examine a fast-moving piece of machinery with the Stroboscope and by regulating the frequency of the flashing, make the machinery apparently slow up, stop or reverse.

With a Stroboscope of sufficient brilliance it is possible to make movies of the phenomenon as long as the frequency of the flashes is adjusted to be well above the rate of movement of the camera shutter (usually 16 per second). Interesting pictures of this type have been made at the Massachusetts Institute of Technology with a special stroboscopic light of mercury vapor and an ordinary motion picture camera. With this combination it has been possible to make movies of constantly repeating mechanical cycles travelling at high speed, and have them appear to be very much slowed down or stopped entirely.

Ultra-Ultra Slow Motion

With the aid of the Stroboscope and a special moving picture camera it has been possible for the Massachusetts Institute of Technology to make slow motion studies at as high a rate as 2000 frames per second! This certainly seems phenomenal when we consider that with any ordinary slow motion camera, 128 frames per second is very fast. To accomplish the feat of exposing 2000 separate exposures in one second the M. I. T. camera had to move the film past the lens continuously, for it is physically impossible to start and stop film intermittently at such a rate. Remember, this camera used 35mm. film and ran a 100-foot roll in less than one second! The stroboscopic light was operated by condenser discharge to give an extremely quick flash, so quick in fact that the image could be impressed on the film, moving through the camera at more than 100 feet per second, and still show negligible blurring.

The stroboscopic light was arranged to illuminate the subject much as ordinary artificial lights are placed for regular motion picture photography. The camera looked very much like many other box-shaped instruments with a high-aperture lens, but instead of an intermittent mechanism and feed sprockets,

the film was moved past the lens by a single sprocket turned by a powerful electric motor, while a second smaller motor served to drive the take-up. The stroboscopic light was made to flash at just the right time to impress a frame on the film at the proper place, by a contactor or commutator on the shaft of the film-driving sprocket. No shutter was required, for during the intervals between flashes, there was never enough light on the subject to make an impression on the film.

With this remarkably simple yet ingenious device, many very fascinating and scientifically valuable slow motion studies have been made. The flight of a bullet, the behavior of splashing liquids, the breaking of a light bulb, the flight of humming birds all have been captured so that they may now be projected on the screen moving 100 times slower than they actually moved.

Watch Out for the Stroboscopic Effect

The stroboscopic effect can be of great service to amateur movie makers, but it also can cause difficulties which one must look out for. The regular moving picture camera without any gaseous flashing lamp is really a Stroboscope in principle. Its periods when the shutter is open correspond to the flashes of the lamp, and in certain cases can give the stroboscopic phenomenon. For example, you no doubt have often seen a movie of a vehicle with spoke wheels running along with the wheels apparently turning in the wrong direction or perhaps not moving at all. This is a stroboscopic effect and is almost impossible to avoid in this particular instance. It is more pronounced with cameras having a narrow shutter opening giving a short exposure. Another instance when the stroboscopic effect becomes annoying and is entirely avoidable is when the camera is "panned" across a scene containing a row of vertical lines like a grove of trees or a picket fence. Here the stroboscopic effect will give a most disagreeable dither to the scene.

The flashing lamp of M. I. T.'s slow motion studies is too elaborate and too costly a piece of apparatus for the amateur movie worker to use, but there is a little neon lamp which sells for only fifty cents and will operate on regular household alternating current. This little lamp, with its rather dim red glow, flashes a faithful picture of the alternating current, being completely extinguished each time the current passes through the zero value, and it becomes a valuable aid to the synchronizing of home movies with musical scores and sound effects.

The little neon bulb, sold at all electric shops, will flash 120 times per second when burned on regular 60 cycle alternating current. Thus it is an accurate frequency which can be used to time the speed of motion picture projectors accurately. In order to do this, though, it is necessary to attach a white disc with black radiating lines to some rotating part of the projector, the number of radii on the disc being determined by the speed at which the part should turn. For example, the most convenient moving part of a projector to measure is one of the feed sprockets. At normal silent projection speed of 16 frames per second the feed sprockets of most projectors must turn exactly two revolutions per second (this refers to an "8 frame" sprocket which feeds 8 frames of film in one complete turn). With a flashing light of a frequency of 120 per second and a sprocket turning two turns per second the disc attached to the sprocket should have $120/2$ or 60 radial lines. When the projector is run and the disc viewed by the light of the neon lamp, the radial lines will

appear to be stationary when the projector is running at exactly 16 frames per second. If the projector speed changes the slightest amount, the radial lines will apparently turn slowly to the right or left.

In synchronizing a film with phonograph records, the Stroboscope will insure the proper speed of the projector. The proper speed of the turntable can also be obtained by the use of a Stroboscope and here it is not necessary to make your own disc, for they are sold by all record shops for the very purpose of enabling one to be sure the phonograph records are played at the right speed. With both the phonograph and the projector running at definite uniform speeds, the timing and fitting of records to various sequences can be done with the assurance that each time the show is repeated, the musical selections will last for the same amount of picture material.

After one has timed the musical selections with the picture and is sure that the amount of music and screen time fit, the only tricky point in presenting a smooth show is getting the phonograph and projector started together. Once they are started, the Stroboscopes will keep them in step. Getting the projector and phonograph started together is comparatively simple once the manipulation has been practiced a little. The record is placed on the turntable and started revolving at the correct speed. The projector is then threaded with plenty of leader and started. The projector is brought to speed immediately by watching the Stroboscope disc and then the screen is watched for the opening scene or title where the sound is to start. When this point is reached, the needle of the phonograph is slid gently into the first groove of the revolving record and the show is on. It may take two or three trials with a new film to find just the right point in the film at which the needle should be applied to the record. When more than one record is used in one reel, the start of each record should be made at some cue on the film to insure that the timing is correct each time the film is shown.

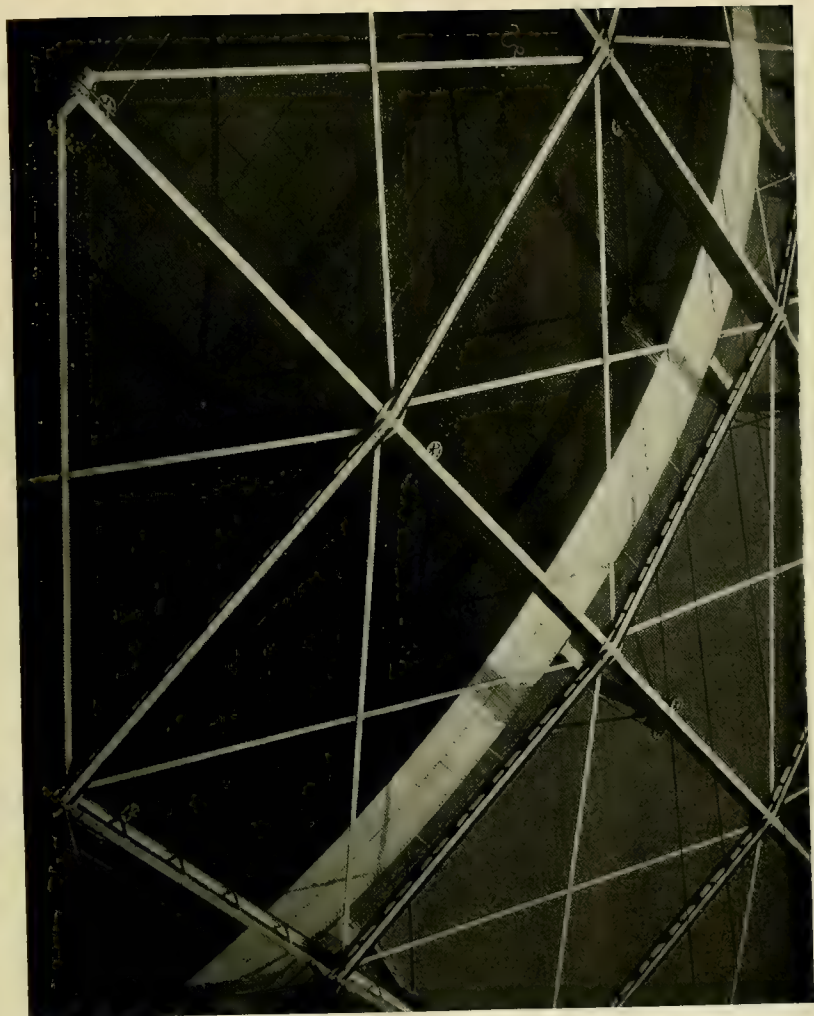
Questions and Answers

Question: What causes the projector to give a very dim picture even though the lamp is new?

Answer: There are several reasons why a new lamp may not give a good picture. Most likely is that the lamp is out of focus with the optical system or that the mirror is not adjusted correctly. These adjustments should be made by a dealer unless the owner is quite familiar with optical systems. Sometimes a lamp of the wrong voltage will be placed in a projector by mistake. For example, if a 120 volt lamp were placed in a projector intended to use a 50 volt bulb, the light would only be a small fraction of what it should be.

Question: How much closer to the camera does an object appear when photographed with a telephoto lens?

Answer: The apparent decrease in the distance between the camera and the subject depends upon the focal length of the telephoto lens. On a 16mm. camera a 2 inch (50mm.) lens will make the apparent distance just half that of the regular 1 inch (25mm.) lens. Likewise a 3 inch (75mm.) lens will make the apparent distance one third that of the regular lens. In other words the apparent decrease in distance from the object is inversely in proportion to the focal lengths of the lenses. With 8mm. cameras, the usual 1½ inch telephoto lens will bring the subject, apparently, to only one third the distance shown by the regular lens.



Shavenau Monsen

Advanced Medal Print

■ Mr. Monsen has certainly not hesitated to take full advantage of artistic license in tilting this negative to suit the plan of his composition. Ordinarily where such tilting is plainly evident, we find it disturbing, but as far as we are concerned the subterfuge works in this case. Perhaps that is accounted for by the fact that the subject matter is not very familiar, so that it approaches the abstract so far as the observer is concerned. Be that as it may the composition is built around the band of light tone that sweeps from lower left to upper right, and there is no other way to establish that line than by tilting negative or camera.

Data: 10 x 13" bromide print.

*"Woscherin"*

*Dr. Ivo Frelj
Jugoslavia*

Data: 6 x 6 cm. Rolleiflex; 1/30 sec. at F:5 on Agfa Isopan, in Gevaert Fine Grain developer; light yellow filter, at 3 P. M. in September. 9¼ x 11½" prints may be obtained at the price of \$2.00 upon application to Camera Craft.

Third Award

Advanced Class

■We suspect that many beginners in photography somehow or other get the impression that this sort of lighting is more easy to handle than others. At least the number of bad lightings of this kind would tend to support such a conclusion. Actually it takes just as much if not more judgment and understanding to properly handle an extreme lighting such as this than would be required with a more conventional lighting plan. Two faults each of them glaringly evident and most disturbing are usually found in beginners' attempts at such effects. (1) The lighting is usually much too contrasty, resulting in blank white paper on the highlight side and unrelieved black on the other. Observe that in this print the brightest highlights contain a substantial amount of tone and that there is a subtle yet definite distinction between the shadow side of the figure and the background. (2) The lighting angle, the camera angle and the pose are often completely unrelated, with the result that the contours revealed are awkward, unpleasant and illogical. The interest in a picture such as this must center around the two contours which are established and the relation between them. The primary contour, the one sharply outlined against the background, is set up

*"Torso"*

*Lionel Heymann
Chicago, Ill.*

(Continued on page 41)

Fourth Award

Advanced Class

■ This picture contains an extremely interesting distribution of light and dark masses. Notice also how firmly the eye is conducted through the picture space, traveling in zig-zag fashion first to the left, then to the right and so on over the horizon line. We think that many a good picture is missed because the photographer is not careful enough to make sure that what he gets on the film is what he saw with his eyes. Consequently, it is well for the reader to appreciate how important the height of the camera was in achieving this composition. Varying the camera height as much as the difference between eye level and waist level would probably be enough to ruin this arrangement. As an example let us point out one disastrous effect of adopting too low a camera angle. We know that in photographing a vista of this kind the spacing between elements at varying distances from the camera is increased as we raise the camera and decreased as we lower it. Notice that the foreground area contains three main tonal areas. A light mass, a dark mass and then a second light mass in ascending order. Notice also the thin finger of light tone which runs in from



"Ajda"

*Franc Bazelj
Jugoslavia*

(Continued on page 42)

Fifth Award

Advanced Class

■ Night scenes such as this can have a very strong emotional quality for all of us respond to the threatening atmosphere of a dimly illuminated, deserted street. Notice how the pictorial qualities are enhanced by the dampness of the pavement, and how the moisture in the atmosphere helps to hold down the brightness of the street lights. Wet nights are ideal for this sort of work. Observe also how the broken sidewalk and cobblestone street builds up the threatening atmosphere until one is positive that a desperate thug lurks in each doorway. This picture illustrates a point which all photographers should keep strongly in mind when shooting at night. Keep the number of lights shown in the picture at a **minimum**. Only two are seen in this print, and that is why it does not have that distracting spotty quality that is so commonly found in night pictures.



"Deserted"

*Walter D. Verizzo
New York City*

Data: 6 x 6 cm. Rolleicord; Zeiss Triotar F:3.8; 6 mins. at F:8, on Agfa Superpan, in DK-76; 11 x 14" print on Defender Velour Black C, blue toned. Prints may be obtained at the price of \$6.00 upon application to Camera Craft.



"Grooming the King"

Fred A. Sullivan

Amateur Medal Print

■What we try to do in making pictures is to present things in such a way that the observer gets a heightened emotional impression of the qualities inherent in the subject matter. Some might go a step further and say that the artist shows what he sees in the material. Since what the artist sees, should grow out of and have a very direct relation to the subject matter, there is not as great a difference between the two statements as might at first be supposed. We are, however, inclined to prefer the slight limitation of the first statement in speaking of photography. Be that as it may, the photographer accomplishes that end by carefully selecting a lighting and a point of view which will bring out the qualities which he has in mind and which will at the same time eliminate all extraneous elements from the picture. That is what Mr. Sullivan has done so successfully with this picture. He shows us the great size and the sleek streamlined lines of this monster ship; he shows us its beauty and its power.

Observe that the moderately low camera angle gives that looming effect to the bow which adds a touch of the dramatic to the picture. The angle of light gives that beautiful luminous highlight on the bow and also (by absence of light) eliminates much extraneous detail in the dock on the right. It is by getting such things as these just

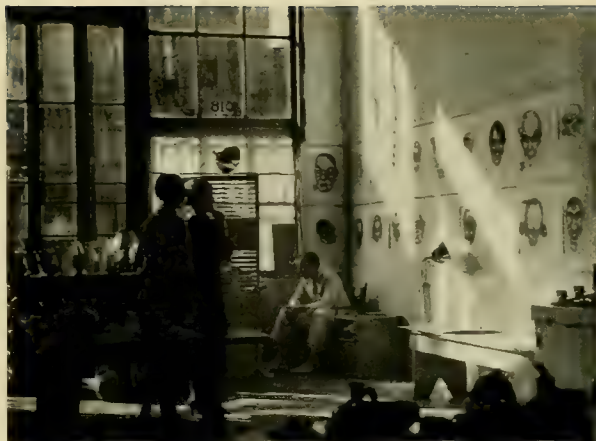
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Second Award

Amateur Class

■We think that Miss Atwood has done a fine job in successfully organizing a number of rather diverse elements into a unified whole. There are two separate groups of figures, the pictures on the wall, the crockery about the studio, and the windows with brilliant sunshine streaming through them. Surely there were many ways in which one or more of these numerous items could have gotten out of step with the rest, yet this picture hangs together splendidly. The story of this modest little gallery is told completely and simply, and it is made beautifully luminous and alive by the strong lighting. Notice that the sunlight striking the right wall does much in creating the unity of the picture by reducing the strength of the pictures there. If these were all clearly shown there would be so much of interest on this wall that the eye would then move away from it to other parts of the picture only with difficulty.

Data: 6 x 6 cm. Rolleicord; 1/25th sec. at F:8, on Agfa Finopan in M. Q. Borax; 9 x 11 $\frac{3}{4}$ " print on E. K. Vitava.



"Caricatures By Wolo"

Alice G. Atwood
Taft, Calif.



"Lebenty-Leben"

F. Elliott Harrell
Richmond, Va.

Third Award

Amateur Class

■It seems to us that more and more of our southern contributors are turning to the negro population of their localities as sources of pictorial material. In this we think they are wise for who could ask for more interesting subject matter than this. This picture is well conceived and nicely photographed, but we do wish that the figure stood out a bit more definitely from the background, so that there would be a more evident feeling of the third dimension. The present slight lack of relief is due we believe to the fact that the values in the figure and the background photograph so close together. Perhaps the solution would be to make the shot later in the day with a lower angle of light. Then it should be possible to arrange matters so that the light would be just as strong as it is at present on the figure, but considerably weaker on the background. Also if the writing pad were moved just a bit further to the right it would act

as a swell reflector, kicking light up into the shadow side of the face.

Data: Zeiss Maximar B; negative on Agfa Isopan, in Agfa No. 17; 11 x 14" print on Agfa Brovira Rough Medium, in Agfa W5.

*"A Good Catch"*

Wm. Edwin Booth
Richmond, Va.

■This picture is interesting and pleasing, not so much because of the action shown, but because that action reveals the figure in such graceful movement. It is no easy matter to catch a graceful aspect of violent action even when the model is a trained dancer. The action may appear wonderfully graceful when observed by the eye, but when the actual movement is stopped by the camera there is often an awkward position of hand or foot, or some muscular tension that is revealed because, in the picture, we have an opportunity to inspect the action in every detail. The only solution of this difficulty that we know of is to make plenty of shots, and then hope that Lady Luck is on your side.

Data: Zeca Coldi; E. K. Panatomic, in Edwal 12, with K-2 filter; 11 x 14" print on Agfa Brovira Royal, in Edwal 106.

Fifth Award

Amateur Class

■Mr. Klinefelter has caught the expression he was after perfectly in this lively picture. We think that the most interesting point for discussion concerns the placing of the head within the picture space. It seems clear that the present spacing was adopted because the maker felt it necessary to include the hand holding the cigarette, in the lower right, on the theory that this gesture supplemented the flamboyance of the expression. If we agree to that we will also approve of the picture as shown. If the hand were not blurred and shown in a rather awkward manner we would be inclined to agree with Mr. Klinefelter's reasoning. As things are however we feel that the hand does not perform the function expected of it, but is unsatisfying because of its lack of definition, in an otherwise sharp picture. We would therefore trim from the right until only the finger holding the cigarette remains and up from the bottom until all but about half of the cigarette is eliminated. It will then be an easy matter to retouch the bit of cigarette and finger tip so that they will not be noticeable. This trimming will, however, create a "trap" where a bit of background shows between the right side of the head and the right edge of the print. This light spot should be dodged in until it does not act as a distracting spot.

Data: 3¼ x 4¼" Popular Pressman; Aldis Butcher F:3.4; 1/120th sec. at F:8, on E. K. S.S. Pan in D-72; 11 x 14" print on E. K. Vitava Opal in D-72.



"Chapel Street Cut-Up"
Lee M. Klinefelter
Norfolk, Va.

Monthly Competitions

Contributors Please Notice

The steadily increasing circulation of Camera Craft makes it imperative that we allow our printers more time in which to produce the magazine. The date for judging these competitions each month must therefore be advanced. Beginning October 1st the competitions will be judged on the first day of each month instead of on the fifth day as has been our practice in the past. **PLEASE REMEMBER TO SHIP YOUR PRINTS FIVE DAYS EARLIER THAN BEFORE. JUDGING ON THE FIRST DAY OF EACH MONTH.**

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Lionel Heymann, for the Fort Dearborn Camera Club; Dr. Ivo Frelj and Franc Bazelj, for the Fotoklub Ljubljana; Walter D. Verizzo, for the Miniature Camera Club of New York; and Shavenau Monsen, for the Pack Rats.

The following won prizes for their clubs in the Amateur Class: F. Elliott Harrell and William Edwin Booth, for the Camera Club of Richmond, Va.; Lee M. Klinefelter, for the Norfolk Photographic Club; and Alice G. Atwood, for the Taft Camera Club.

The following prize winner has no club affiliation: Fred A. Sullivan.

Contributing Clubs

Aluminum Camera Club (New Kensington, Pa.)	Kamera Kranks (Durham, Calif.)
Amsterdam Camera Club (N. Y.)	Miniature Camera Club of New York
Camera Club of Richmond (Va.)	Minicam Forum (Summit, N. J.)
Cleveland Photographic Society Miniature Group (Ohio)	Nassau County Camera Club (N. Y.)
E. P. I. C. Pool of San Francisco	Norfolk Photographic Club (Va.)
Florida Camera Club (Tampa, Fla.)	The Pack Rats (Pasadena, Calif.)
Fort Dearborn Camera Club	Photographic Society of San Francisco
Fotoklub Ljubljana (Yugoslavia)	St. Louis Camera Club (Mo.)
Guild Camera Club (Saranac Lake, N. Y.)	Taft Camera Club (Calif.)
	Telephone Camera Club of Manhattan
	Toronto Camera Club (Canada)

STANDING OF CLUBS

Large Clubs Advanced Class		Large Clubs Amateur Class	
Fotoklub Ljubljana	6	Camera Club of Richmond.....	5
Fort Dearborn Camera Club.....	3		
Miniature Camera Club of New York....	1	Small Clubs Amateur Class	
Small Clubs Advanced Class		Taft Camera Club.....	4
The Pack Rats.....	5	Norfolk Photographic Club.....	1

(Continued from page 36)

by adjusting the pose and the camera angle. The secondary contour is determined by the careful adjustment of the angle of illumination. This secondary contour should be a pleasing variation of the primary contour. It should echo and emphasize the primary form, but it should not be as sharp or as continuous a line. Observe for example the subtle breaks in the secondary contour just below the breast and at the base of the ribs. In order to see more clearly the importance of the relation between the two contours imagine what would happen if the lighting angle were changed. If the light were brought forward the secondary contour would move to the right where it would very shortly become little more than a straight line. It is easy to see how unrelated such a line would be to the primary contour. If the light were moved back we would quickly lose the structure of the model's left breast. It doesn't take much imagination to realize that this would also destroy the necessary relation between the two contours. So we see that an understanding of what we are trying to do makes it quite clear that the pose, the camera angle and the lighting angle must be selected with the greatest care. Mr. Heymann shows how it should be done.

Data: 11 x 14" Studio camera; Wollensak Velostigmat; 1/5th sec. at F:5.6 on E. K. Portrait Pan, in DK-50; by one 1000W Mazda blue lamp; 11 x 14" Chloro-bromide print.

(Continued from page 37)

the left side of the print. If the camera were placed only a little lower this thin finger of light tone would merge with the second light toned mass mentioned above, thus blocking off the pathway of dark tone along which the eye moves into the picture. It is not necessary for us to enlarge upon the detrimental effect which such a "merging" would have upon this composition.

Data: 6 x 6 cm. Rolleiflex; F:3.5 Tessar; 1/10th sec. at F:11, with light yellow filter in September. Print size 9 x 11".

(Continued from page 38)

right, plus such fine technique as is shown in this print, that superlative pictures are made.

Data: 2¼ x 2½" Zeiss Super Ikonta B; 8 cm. Zeiss Tessar F:2.8; 1/25th sec. at F:11, on E. K. S. S. Pan, with X-2 filter and lens hood; bright sun about 1:00 P. M. in October; 11 x 14" print on Gevaert Gevaluxe.

We apologize for the awkwardness of these several continuations and will try to be less garrulous in the future.—Ed.

THE CAMERA CRAFT MONTHLY COMPETITIONS—EXPLAINED

It is well to understand at the start that the rules governing these competitions are purposely kept at a minimum, so that the competitions may be open to all without red tape and without complication. A competitor may take whatever action he desires that is not specifically denied by the rules. **Camera Craft** makes no copyright claim to the pictures which win awards, and their makers are entirely free to do with them as they wish. Do not bother to wonder if you may do this or that. You have complete liberty of action, provided only that you observe the few simple rules given below.

Rules

- Any one may enter. You are **not** required to be a member of a camera club, a subscriber to **Camera Craft**, or anything else. No entry fees. No entry blanks. No restrictions on size, or number. Mounts are not required.
- There are two classes, "Advanced" and "Amateur." These groups are judged separately, with five awards in each class, ten awards in all. The ten winning prints are published in **Camera Craft** each month.
- Prints must have makers name and address, the class in which they are to be entered (whether "Advanced" or "Amateur") and the technical data (see below) regarding them, plainly marked on the back of each.
- Prints shall be returned only when stamps sufficient to cover are enclosed with the pictures. Do not send stamps under separate cover as it is possible they may not be connected with the identity of the sender or prints.
- Prints may be in black or sepia but tinted and painted photographs are barred.
- Prints must be in before the 1st of each month to be entered in the succeeding month's competition.
- Prints winning prizes cannot be returned.
- The object of the two classes, Advanced and Amateur, is to insure that individuals shall compete on as even terms as possible. Compare your prints with those shown as prize winners in the two classes, and decide with which group your pictures would most fairly compete. If in doubt enter first in the amateur class and then if successful move up to the advanced. In order to insure fairness and an equal chance to all, the judges reserve the right to move prints into the advanced class if the quality of the pictures seem to justify this.

Awards—Advanced Competition

- First: Silver Medal.
- Second: Photographic Merchandise, value \$5.00.
- Third: Two years' subscription to **Camera Craft**.*
- Fourth: Eighteen months' subscription to **Camera Craft**.*
- Fifth: One year's subscription to **Camera Craft**.*

Awards—Amateur Competition

- First: Bronze Medal.
- Second: Photographic Merchandise, value of \$3.00.
- Third: Eighteen months' subscription to **Camera Craft**.*
- Fourth: One year's subscription to **Camera Craft**.*
- Fifth: Six months' subscription to **Camera Craft**.*

* May be presented to a friend or divided and presented to friends at this or holiday time.

Technical Data

We request that the technical data be placed on the back of each print submitted to the competition. A complete technical description should cover the following points: Size and make of camera, make and focal length of lens; exposure time and aperture used; negative material; negative developer; filter; light source; (if artificial, the number of lights and the wattage, if outdoors, the time of day and the month); paper; print developer; special treatment. By "special treatment" we mean, any manipulation or procedure that is not covered by the above.

Selling Price For Prints May Be Stated

Many a photographer is happy to sell an occasional print, not only because of the monetary return, but because it is pleasant to know that one's work is appreciated by others. **Camera Craft** will assist in this regard by printing a selling price along with the technical data which accompanies each of the prize winning prints when reproduced in the magazine, and when they are sent out as Traveling Salons. If you are willing to sell prints for private collections please state price, print size and mount size on the back of each print. If the sale of prints does not interest you please state "not for sale." No commission will be taken by **Camera Craft**.

Club Trophy Features of the Competitions

Four Silver Trophy Cups will be awarded to clubs making the best record in the **Camera Craft** Monthly Competitions each year. Awards will be made on the following basis:

1. Clubs will be divided into two groups—large and small on the basis of membership, and identical awards will be made to each of the two groups. This is to make sure that competing clubs will be of approximately the same size. Large clubs will be those whose membership is over 40. Small clubs are those with membership of 40 or less.
2. The four awards are as follows:
 - (a) To large Club making highest total score in the Advanced Class.
 - (b) To Large Club making highest total score in the Amateur Class.
 - (c) To Small Club making highest total score in the Advanced Class.
 - (d) To Small Club making highest total score in the Amateur Class.
3. Points in each of the four divisions, Large and Small Clubs, Advanced and Amateur Classes are as follows:

5 points for First Award, 4 points for Second Award, 3 points for Third Award, 2 points for Fourth Award, 1 point for Fifth Award.
4. Each club has the opportunity of competing for two cups. One in the Advanced Class and one in the Amateur, but individuals within the club cannot enter in both classes. Individuals may choose the class in which they wish to compete, but the judges reserve the right to change entries from the Amateur to the Advanced class if the quality of the work seems to warrant it.
5. No individual can earn more than 15 points for his club.
6. It is well to understand that the conduct of this competition is in nowise changed by the addition of these annual club awards. Judging is still entirely on the basis of the individual print, and those who are not club members have the same chance of winning awards as formerly. The only difference is that now if a prize winner is a member of a club, his club will be credited with the proper number of points allocated for that prize.
7. Scoring for these cups begins with the January Competition, prints for which must reach this office on or before December 1st. It runs for 12 months concluding with the December competition. Prints for each succeeding competition must reach this office on or before the 1st day of the preceding month.
8. Club name, makers name and address, and technical description of print must appear on the back of each picture.

What a Club Should Do

- Study the rules which appear on this page and the rules governing the competition in general which appear above. ■ Appoint a committee of one or two whose sole duty will be to collect and forward prints **each** month and on **time**.
- Divide your membership into two groups, one to compete in the Advanced Class, the other in the Amateur. It is not required that a club compete in both classes.
- Be sure and send each month as it is the total score that wins.

Prize Winners Widely Exhibited

The winning prints in these competitions are made up into Traveling Salons and circulated for exhibition and study to **Camera Clubs** throughout this country and Canada. At present 119 clubs are receiving these shows so we feel entirely safe in

saying that these pictures receive a wider exhibition than is possible by any other means.

IN REPLY TO QUESTIONS

1. There is no rule against entering a print in the competitions more than once, providing it has not won an award.

2. Either clubs or individuals may send a batch of prints in one package and have two or three entered each month, the group being returned when all prints have been entered. When such procedure is desired a covering letter should be sent, and the sender **MUST** mark on the back of each print the month in which it is to be entered. Camera Craft will not take the responsibility of selecting which prints from a group are to be entered in any given competition.

3. The safest means of transportation is by Railway Express, but this is more expensive than Parcel Post in most cases.

Club Notes

Thomas O. Sheckell to Give Series of Lectures

The Ridgewood Camera Club will sponsor a series of four lectures by Thos. O. Sheckell, of the East Orange Camera Club, in the Ridgewood Library, starting December 15th, and on the second Wednesday of the next three months.

Mr. Sheckell, who is a well-known pictorialist, will speak on "Exposure" at the first lecture and the rest of the series will cover Developing, Enlarging and Portraiture.

Visitors are cordially invited and the cost to non-members will be 75 cents per lecture or \$2.00 for the series of four.

New Courses by P. Douglas Anderson Announced by University of California

The University of California extension division will begin seven courses in photography in San Francisco and Oakland this January and is already announcing a new summer field trip course in Yosemite valley for those who want to plan their vaca-

tion early. All courses will be taught by P. Douglas Anderson, F.R.P.S.

The courses to be given this January are:

SAN FRANCISCO (540 Powell Street)

School Photography—Thursday, Jan. 27, 4-6 P. M.

Principles and Practice (advanced) — Monday, Jan. 10, 7-9 P. M.

Miniature Cameras—Thursday, Jan. 11, 7-9 P. M.

Darkroom Technique—Thursday, Jan. 13, 7-9 P. M.

OAKLAND (1730 Franklin Street)

School Photography—Wednesday, Jan. 12, 4:10-6:10 P. M.

Principles and Practice — Wednesday, Jan. 12, 7-9 P. M.

Darkroom Technique—Friday, Jan. 14, 7-9 P. M.

The vacation course will consist of a week's practice in outdoor photography in Yosemite valley, with a field trip each day

under the supervision of Mr. Anderson. Previous photographic experience is unnecessary. The date for the course has been set for the week of July 11-16.

Chicago Camera Club School of Photography Contest and Exhibit

The Chicago Camera Club School of Photography in recognition of the conclusion of the fifth year of its activities announces a contest and exhibit for all those who have attended its various sessions.

Competitors are limited to those who have attended the school and the last day for receiving prints is January 15, 1938. One hundred dollars in cash prizes are to be awarded, with \$25 first prize. Prize-winning prints will be placed on exhibit in the club rooms of the Chicago Camera Club from February 1st to 28th, inclusive.

The fall term of the school, which ended December 7th, was another successful session in a school where success is no longer unusual. An enrollment of 118 reached the school's capacity and many were again turned away due to lack of seating facilities. The fine work the school is doing for photography makes it incumbent upon every former student to give this competition and exhibit their thoroughgoing support.

Entry forms with complete rules may be obtained from the Chicago Camera Club School of Photography, 137 N. Wabash Ave., Chicago, Ill.

Stanley R. Jordan to Instruct San Francisco Class in Portraiture

Stanley R. Jordan, one of San Francisco's leading portrait photographers, will conduct a class in portraiture, during January and February, 1938.

Mr. Jordan recently opened a modern portrait studio, in San Francisco, and classes will be conducted in the studio, with the latest developments in studio equipment.

Featured subjects will be panchromatic make-up, which Mr. Jordan studied under Max Factor of Hollywood; lighting; and posing. Models, of different subject types, will be used in demonstrations. As the group will be small, ample time will be allowed for questions and discussion.

Classes will begin Monday night, January 10th, and will continue every Monday night thereafter for four weeks. Sessions will last three hours, so that every subject will receive thorough attention between the hours of 7:00 and 10:00 o'clock.

The amazingly small fee of \$10.00 is all that will be asked for these hours of expert instruction under ideal conditions and we suggest that those interested act at once. The class will be limited to 20 students and no exceptions can be made due to lack of space, so don't delay if you are interested. Phone the Jordan Studio, EX-brook 2308, for reservations or further details.

Notes and Comments

General Electric Exposure Meter

Latest excitement in the equipment field is the new General Electric Exposure Meter, just announced to sell at \$19.50. The new meter is unique in that it is constructed in two parts. One part is the light meter itself, and this slides into the second part which is a hood with a hinged cover at the end which is pointed toward the subject when the meter is in use. (See advertising pages for illustration.) The meter may be used with the cover of the hood either open or closed. This arrangement has the effect of giving the meter three ranges of sensitivity. For extremely

low illuminations the light meter is removed from the hood, held near the subject and pointed at the source of illumination. By this means it is possible to get a reading which would otherwise be far below the range of the meter. For normal lightings the meter is used with the hood on and the hinged cover open. For extremely brilliant lightings the meter is used with the hinged cover closed. Closing the cover reduces the reading to one-tenth that obtained with the cover open. The meter uses Weston speed ratings. Providing you are using a film rating at Weston 16, apertures may be read di-

rectly from the meter for a series of eight established shutter speeds and of course others can be quickly calculated mentally when they fall in between those shown on the dial. With the hood closed apertures may be read directly for exposures of 1 sec., 1/5 sec., 1/25 sec., and 1/100 sec. With the hood open apertures may be read directly for exposures of 1/10 sec., 1/50 sec., 1/250 sec., and 1/1000 sec. In each case these relations are for a film with an emulsion speed of Weston 16. It is of course a simple matter to make a mental adjustment of either exposure time or aperture when using films with emulsion speed ratings in multiples of 16. Only when such a relation is not present is it necessary to use the metal dial on the hood. The only adjustment required on this dial is to set the emulsion speed rating opposite the shutter speed to be used. The proper aperture is then found opposite the candle foot reading given by the meter. Maximum emulsion speed calibrated on the meter is Weston 60.

This new meter has many interesting features that should be seen to be fully appreciated. Ask for it at your dealers.

Print-In Backgrounds

S. Harrison, announces a complete line of hand-drawn, Print-In Backgrounds, in many different styles and sizes. They are simply and easily used. When the subject has been photographed in front of a one-tone background, for contact or projection prints, the print-in background is placed under the negative and prints of any desired size may be made.

Write S. Harrison, 456 Linden Blvd., Brooklyn, N. Y., for a descriptive folder of the complete line.

Photographic Frames

Hirsch & Kaye, 239 Grant Avenue, San Francisco, Calif., announce their new Catalog No. 11, listing a complete line of photographic frames. This 44-page booklet lists an infinite variety of styles, with illustrations that make selections easy.

Your studio will find these frames an incentive to business. Write Hirsch & Kaye, at the above address, for your copy of Catalog No. 11 today.

New Realite Lighting Unit Has No Bolts, Nuts or Clamps

Central Camera Company, 230 South Wabash Avenue, Chicago, Illinois, announces their new streamlined "Realite" lighting unit which has no clamps, no nuts, no bolts and provides perfect lighting at extraordinarily low cost. The patented lock construction locks the stand instantly to any desired height from 30 inches to 80 inches. Double legs built like a bridge eliminate wobbling and insure firmness and rigidity. Made of cold-rolled steel, chromium plated, with 10-inch polished aluminum parabolic reflectors, acid etched for better reflection.

Twin arms swing through a complete arc—as low as the floor and as high as 80 inches—and stay put at any angle. Reflectors swing in all directions on a universal ball joint. Weighs very little and folds down to 38½ inches for carrying.

Priced at only \$9.00 with reflectors (bulbs extra). Realite is sure to appeal to those photographers who are seeking to make their work easier, to produce better lighting and better pictures at lower cost.

Write Central Camera Company for complete details and Free Bargain Book of Cameras and Photographic supplies.

New Wabash Midget Superflash Bulb

Topic of the month is the excitement created by the appearance on the market of a new midget-size Superflash flash bulb manufactured by the Wabash Photolamp Corp., Brooklyn, N. Y. Smaller than the smallest flash bulb ever made, thirty of these midget bulbs can be carried in a size 7 hat, while twelve fit with ease in each coat pocket.

The manufacturers guarantee this bulb, designated as Superflash No. 1, for perfect foolproof synchronizing at high shutter speeds, and recommend it particularly for the exceptional results produced when used in combination with the new high-speed "press" films such as the Super Pan Press and Super Plenachrome Press that Agfa Ansco has just put out.

Hans Kloss of Paramount News, using the Leica with its focal plane type of shutter, took fifty shots at the six-day bike races, reporting beautiful snappy neg-

atives with every negative fully exposed at different lens stops and speeds ranging to 1/500th of a second. Wabash reports the same type of results secured with the Contax and Exakta focal plane shuttered types of cameras.

Just as in the standard No. 2 and No. 3 Superflash sizes, the flash of the midget Superflash No. 1 has been purposely lengthened at its brightest point. This longer duration of the "peak" of the flash provides a safety zone synchronization area so that even with imperfect synchronizer adjustments, weakened batteries or shutter differences, perfect synchronizing at high speed is possible. Added protection is afforded photographers in the patented blue Safety Spot which turns pink on an imperfect bulb, thus warning against its use. With their tiny size, breakage is almost nil, while an entire day's assignment can be carried in the photographer's pockets. Their speed and compactness satisfies a crying need of the newspaper photographer and the "candid" photographer as well. Especially as a team with the new high-speed films, Superflash No. 1 provides an ideal combination for general news assignments, for portraits, for high-speed action shots, and for the "grab shots" of candid photography.

Your Darkroom In Any Room With Rolscreen

Rolscreen Light-Proof Blinds will permit you to have your darkroom in any room in the house, easily and without unsightly make-shift light-proofing. The Rolscreen insures positive darkness as the fabric is locked in guides at the sides. The screen itself is made with a woven wire base which gives it strength, flexibility and long life. Rolling easily and quickly into position or out of sight it creates a darkroom instantly.

Write the Rolscreen Company, Pella, Iowa, for complete descriptive details.

Tri-Sep Color Adapter Back

M. C. Wickham, 1050 Pembroke Road, Cleveland Heights, Ohio, announces the completion of the Tri-Sep One Shot Three Color Camera Back. The Tri-Sep is easily adapted, without alterations on the camera, to most of the popular 9 x 12 cm. cameras, such as the Maximar, Recomar and Avus Cameras. The Tri-Sep uses $3\frac{1}{4} \times 4\frac{1}{4}$ "

Defender Tripac Film which makes the cost of negative material only about 20 cents per shot. The Tri-Sep Color Back is a precision made instrument constructed of the finest materials.

The price of the Tri-Sep, which brings direct color photography within the range of any serious worker, is \$95.00 complete, including one set of film holders and "A" filter.

Write M. C. Wickham, at the above address, for further details.

Photoflash For Every Emergency

Ready for any photoflash or photographic emergency is one customer of S. Mendelsohn whose "arsenal" as he calls it contains a Contax II; a Rolleiflex; a 9 x 12 Recomar; a 4 x 5 Speed Graphic and a 5 x 7 Korona View. Each one of these cameras fills a definite purpose, according to S. Mendelsohn as follows: The Contax II for "stolen" shots or pictures where a larger camera would interfere with operations; the Rolleiflex for "pictorial" shots because of ground glass focusing which it is claimed makes composition easy; the 9 x 12 Recomar and the 4 x 5 Graphic for all-round "spot news" work; the 5x7 for "commercials" including studio portraits, architectural, groups. All of these cameras are synchronized for photoflash with a single Speedgun battery case and reflector—interchangeability as to individual shutters being affected by a Universal type tripper for the Contax; a Universal tripper for the Rolleiflex; a Model C tripper for each of the three larger-size cameras.

Incidentally the photoflash exposure slide scale is still being distributed by the S. Mendelsohn organization. This is a small pocket-size slide rule which gives correct lens opening to use with photoflash high speed synchronization. It is sent to anyone inquiring upon receipt of 3-cent stamp and information mentioning make of synchronizer used; type of camera. Address communications to S. Mendelsohn, 202 E. 44th Street, New York City.

The S & S Lantern Slide Vise

For the many who now project color transparencies or for those using black and white lantern slides, the S & S Lantern Slide Vise will prove a great aid. It holds your materials immovable during

mounting and the slide is held fast or released with the simple movement of a lever.

The vise accommodates all sizes of slides equally well and its special suction rubber feet keep it from tipping on any firm surface.

Its price is \$3.50 (\$4.00 East of the Rockies) and you may see it at your local dealer's or write to Spindler & Sauppe, Inc., San Francisco or Los Angeles, Calif.

Eastman Kodak Company Announces Kodak ABC Darkroom Outfit

To facilitate the photographic education of amateurs who receive their first cameras this Christmas, the Eastman Kodak Company has assembled a new home developing and printing kit, the Kodak ABC Darkroom Outfit, which includes all the basic material and equipment for beginning a home darkroom. The kit serves for negatives up to and including $3\frac{1}{4} \times 5\frac{1}{2}$ inches.

Attractively packaged, the new outfit includes a Brownie Darkroom Lamp, Model A; a 4-ounce graduate; three 4×6 inch developing trays; one half-pound package of Kodak Acid Fixing Powder; three tubes of Eastman Universal Developer; two dozen sheets of Velvet Velox Paper, Contrast No. 3, size $3\frac{1}{4} \times 5\frac{1}{2}$; two Kodak Junior Film Clips; a glass stirring rod; Eastman Printing Frame and



ABC Darkroom Outfit

glass, and an instruction booklet giving complete information for developing and printing negatives.

The ABC outfit retails at \$2.25, considerably less than if its units were purchased separately and is designed to help

the "rookie" amateur avoid difficulties and errors in his purchases at the start of his darkroom experience.



*Gustave Anderson
First Prize—Medo Contest*

Winners In Medo \$1,000 Photographic Contest

Out of the more than four thousand entries in the Medo Photographic Contest, the winners have been selected—54 in the Candid Class and, due to a tie for fourth place, 55 in the Amateur Class. The prize was duplicated in the case of the tie.

An exhibit of these and other winners' pictures was placed on view, October 27th, at the Medo Photo Supply Corporation store, 15 West 7th Street, New York City.

In the opinion of the judges—Adolf Fassbender, William H. Zerbe, and Chester Kohn—the prints submitted revealed a high degree of artistic and technical competence in both classes. A few years ago, in the opinion of these well-qualified judges, no such open competition would have drawn so high an average of praiseworthy pictures. Amateurs of today know more about composition, lighting, dramatic emphasis, and tonal values than they did

in the recent past. The growing interest in photography is obviously a keenly intelligent interest.

Entries were received from every state in the Union, from Hawaii and Alaska, and even from Europe, although there were no prize winners outside of the forty-eight states.

Prizes in each class were: First, \$100; Second, \$75; Third, \$50; Fourth, \$25, and fifty additional prizes of \$5 worth of merchandise from the Medo store.

Encouraged by the volume and quality of entries, Medo Photo Supply Corp. plans similar contests for 1938 and succeeding years.

Following is a list of the major prize winners:

Amateur Class—1st Prize, Gustav Anderson, Amityville, N. Y.; 2nd Prize, R. G. Spencer, Douglaston, N. Y.; 3rd Prize, Dr. Max Thorek, Chicago, Ill.; 4th Prize, Mily Richter, New York City and E. F. Raynolds, Central Valley, N. Y.

Candid Class—1st Prize, H. G. Kehl, Brooklyn, N. Y.; 2nd Prize, John Amorosia, Brooklyn, N. Y.; 3rd Prize, Janet Weston, New York City; 4th Prize, Louis Schuck, New York City.

ARGUSKIT at Special Gift Price

The International Research Corp., are making a special gift offer for the Christ-

Portrait Attachment No. 3; a S-3 Copying Attachment No. 2; a S-4 Yellow Filter 2X; a S-5 Yellow Filter 4X; a S-6 Rubber Lens Cap; a S-7 Lens Accessory Case; two dozen Glass Slide Binding Sets; an Arguslide Binder; and an Arguskit Utility Cabinet.

The new items, included in this set, are the Argus Slide Projector and accessories and, although these items will be offered for separate purchase later on, the first units produced will be used in the ARGUS-KITS.

This is truly an unusual bargain offer and one that would bring joy to the heart of any camera enthusiast. Start your friends off with an ARGUSKIT this Christmas.

Ground Glass Focusing For Your Minicam

Fitted easily to your Leica or Contax, Speed-O-Copy, brings you the benefits of ground glass focusing and takes the guesswork out of your picture taking. It also adapts these cameras into precision copying machines or close-up cameras.

Speed-O-Copy is especially valuable for natural color work as the ground glass gives you a perfect natural color image to work from and it is also indispensable in table-top photography, portraiture, and close-ups of small objects.

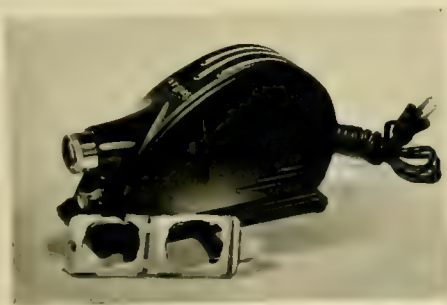
D. Paul Shull, manufactures many other valuable time and money saving attachments and accessories for miniature cameras. See them and Speed-O-Copy at your dealers or write for descriptive material to D. Paul Shull, 240 South Union Avenue, Los Angeles, Calif.

New Alfa Print Trimmer

The Alfa Machine Company announces a new print trimmer that is winning instant approval wherever shown. It is of all metal construction—spot welded and riveted—always in perfect true. Its adjustable squaring gauge is a great aid in producing uniform work and for many odd jobs. A self adjusting clamp makes it possible to trim more accurately and holds curled prints flat and true.

The self-honing tool-steel blade is mounted under spring tension to prevent wear at the heel. It cuts fabrics cleanly and needs no re-sharpening.

A patented trimming mask is supplied at slight extra cost to facilitate production



New Argus Slide Projector

mas Season at an unusually low price. These items, which include three new products, retail individually at a combined price of \$55.70 and the special gift price for the holiday season is only \$50.00.

The ARGUSKIT includes the following items: A Model AB Argus Camera; a Model E Argus Enlarger; a Model CP Argus Projector; a S-1 Lens Shade; a S-2



New Alfa Print Trimmer

of prints of identical size with even borders. It is simple to operate and permits amazing speed.

Folder describing this trimmer sent on request by Alfa Machine Company, 1305 N. Fourth Street, Dept. A-1, Milwaukee, Wisconsin.

Synchro-Sunlight Contest

Winners of the \$100 Kalart Synchro-Sunlight Contest have been announced by the Kalart Company, New York City.

The first prize of \$50 was awarded to Buel White, Springfield Newspapers, Inc., Springfield, Mo. for his "Here Comes the Parade".

R. Wayne Anderson, 12124 American Ave., Detroit, Mich. won second prize of \$25 with "Water Babies".

Five dollar prize winners are:

Jack B. Strathman, Manchester, Iowa, for "Nimrod".

A. J. Cunningham, Utica, N. Y., for "Pan".

S. A. Grimes, 4661 Attleboro St., Jacksonville, Fla., for "Come and Get It".

Sam Falk, Wide World Photos, New York Times, N. Y., for "Grotto".

A. M. Urquhart, 1923 Main St., Niagara Falls, Ontario, for "Garden Pool".

J. Wilbur, 1066 S. Grove St., Irvington, N. J., for "Woodnymph".

Judges of this contest were: Willard D. Morgan, photographic editor of "Life Magazine"; Pat Terry, head staff photographer of "News-Week"; and John F. Cameron, of N. W. Ayer & Son, well known advertising agency.

The Kalart Company reports an enthusiastic response to this year's Synchro-Sun-



"Here Comes the Parade"

Buel White

First Prize—Kalart Contest

light contest, which ran through the summer and fall months. Photographers all over the country—both amateur and professional—showed interest in this increasingly popular technique.

Chief distinguishing feature of the Synchro-Sunlight picture is the use of the sun for strong back and top lighting, while the speed flash preserves full detail in the dark foreground and front of the subject.

Masterbilt Dual-Purpose Enlarger

Harold Francke announces the Masterbilt Dual-Purpose Enlarger with models ranging in price from \$8.75 to \$44.50. The Dual-Purpose Enlarger permits you to attach your own focusing bellows camera quickly and easily and a "Master-Micro" miniature attachment (which is furnished with or without lens) converts the enlarger into a miniature projection unit. Complete descriptive details may be had upon request for a 3-cent stamp. Write Harold Francke, 1926 East Fernwood Ave., Milwaukee, Wis.

Hollywood Photo Flashes

Hollywood Photo Flashes, a newsy photographic bulletin is being distributed to all camera fans, free of charge, by the Coast Camera Co. Write for your copy today from the Coast Camera Co., Dept. C-2, P. O. Box 588, Hollywood, Calif.

Our Book Shelves

The Command To Look: A Formula For Success, by William Mortensen, Camera Craft Publishing Company, of San Francisco. 4½ x 5¾", 192 pages, plastic binding, price \$2.00.

It is rather surprising when one stops to think of it that those aspects of picture making which are really the most important, and at the same time the least understood are the ones most neglected in photographic literature. As proof of the point we offer the fact that never before has there been offered a searching analysis of the important basic factors which make pictures **interesting and effective**. In this book Mr. Mortensen presents a carefully reasoned, fully detailed approach to the many problems involved in the making of truly interesting and effective pictures. He does even more than that by offering a "formula" for effective pictures based on his wide exhibition experience which the reader can apply in step by step fashion in the making of his own pictures.

Heretofore the photographer who was struggling with such problems has been offered little more than "resounding generalities" that were more confusing than helpful. Admittedly it is very difficult to be both specific and practical in dealing with such a subject, but in the writer's opinion Mr. Mortensen's talents as a writer and teacher have been equal to the challenge. The great merit of the book is that it deals with a rather abstract subject in thoroughly practical and understandable fashion.

After an introductory discussion of what a picture must do to be effective the various important factors involved are taken up and analyzed in detail. It is impossible for us to give more than a hint of the material covered without filling several pages, but we will at least attempt to describe the basic plan of the book.

The first fundamental factor discussed is that quality which causes a picture to be looked at in the first place; even before the observer has had time to recognize subject matter. This quality Mr. Mortensen designates as the "impact". He shows

that this quality depends upon the "basic picture pattern", and he reduces these basic picture patterns to four which are each discussed in detail.

Next the question of Subject Interest is discussed. It is shown that subject interest is obtained by relating the subject to basic human emotions. How this may be done, what these emotions are, and the nature of effective subject matter is all carefully described.

The next several chapters take up the Presentation of Subject Matter, and the errors which must be avoided. The basic thought in these pages is that the looker must be given an opportunity to "participate" in the picture. The artist controls this participation by including elements of "movement and hindrance", by the introduction of "confirming forms", by embodying elements of "rhythm and repetition", and by the "tactile" qualities which are the result of the textures shown. All of these matters are discussed within the frame-work of the "formula" previously mentioned. The final chapter is devoted to an explanation of how the reader should apply the "formula" to his own work.

Further elucidation of the "formula" is found in the last part of the book where fifty-five of Mr. Mortensen's best prints are reproduced, and each one analyzed in terms of the "formula". The cover carries a full color reproduction of one of Mr. Mortensen's color pictures, an aspect of his work which has not been widely seen.

Manhattan Magic, by Mario Bucovich. Published by the M. B. Publishing Co., of New York City. 85 illustrations, spiral bound, price \$2.00.

A collection of 85 beautiful pictures of New York City from the camera of Mario Bucovich. The prints give a splendid panorama of the most spectacular city in the world and Bucovich has turned its towering spires into pictures of real beauty.

Complete photographic data accompanies the pictures, as well as, a description of the locale of each photograph.

CLASSIFIED ADVERTISEMENTS

Rate: 6 cents a word; minimum \$1.50 each insertion, prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Fothflex, 2¼x2¼, f3.5 lens, 3 filters, sun shade and auxiliary view finder, with case, for \$49.50. Other movie and still photo equipment for sale. Will send list and prices on inquiry. Every item offered purchased new since August, 1937. Howard F. Cornwall, Forsyth, Mont.

◆4x5 Speed Graphic with Graflex back, 3 cut film holders, f6.3 anastigmat in Compound shutter, and Mendelsohn Speedgun, almost new, \$85.00. Address H. M., Care Camera Craft, 425 Bush St., San Francisco, Calif.

◆16" B & L Sigmar 8x10" Portrait lens (same as new) with studio camera and stand, good condition, \$150.00. 1-set eight 3" Wratten filters with holder in case, same as new, \$17.50. Louis Clergy, Des Moines, Iowa.

◆Leica G, Chromium, Summar f2 50mm and Hektor 135mm f4.5, cases, filters, universal and angle view finders, photoelectric exposure meter, other accessories. New. \$275.00. Box 716, Fort Pierce, Florida.

◆Absolutely like new. Contax III, f1.5 Sonnar, G2 filter, and Eveready case for \$290.00. Contameter for \$45.00. Whole outfit for \$310.00. Total list value \$450.50. H. Steward, N2403 Nettleton, Spokane, Wash.

◆Bargain; Model "F" Leica, Elmar F3.5 50 mm. lens, Eveready Case, \$110.00. Leitz Binuxit Binoculars 8.30, \$50.00. Phone TEmplebar 3461. B. F. M., c/o Camera Craft, 425 Bush St., San Francisco, Calif.

PHOTOGRAPHERS WANTED in every community, to affiliate themselves with our organization. (Ambitious amateurs and spare time workers are acceptable) **PRESS CARDS ISSUED TO THOSE WHO QUALIFY!** Applicants must send specimen of their photographic ability and enclose a self addressed stamped envelope for reply. Film City News Service, 2428 Griffith Park Blvd., Hollywood, Calif.

Leicas, Contaxes, Rollei-flexes and Primarflexes

Bought, sold, and exchanged.
3½"x5" Enlargements 7c each when enlarged from whole 35 mm. roll.

Miniature Camera Shop
1600 Post Street San Francisco, Calif.

FOR SALE OR EXCHANGE

◆35mm. DeVry "Magic Eye" camera with f3.5 lens and case, practically new. Will consider exchange. Address H. M. T., Care Camera Craft, 425 Bush St., San Francisco, Calif.

◆Contax Enlarger Magnihot with 2 inch Zeiss f4.5 enlarging lens \$37.50, new condition. Wanted Leica 135mm. Telephoto. Must be coupling mount for G. 1901 Bush Street, San Francisco, California.

LENSES FOR SALE

◆13 inch f4.5 anastigmat with diffusing device, perfect condition, \$120.00 or trade for fine 12" Dagor in shutter. Cedric Wright, 2515 Etna St., Berkeley, California.

POSITIONS WANTED

◆Printer, operator and Kodak finisher will be open for a position January 1st in the Puget Sound area. Salary reasonable, 16 years experience. Can give references. Homer S. Wyatt, telephone EI 9152, 2209 2nd Ave., Seattle, Wash.

25 feet 35mm. Super Pan film.....	\$ 1.10
Pilot Reflex F3.5.....	28.50
Rolleiflex 6 x 6 F3.8.....	67.50
Voigtlander Superb 6x6 F3.5.....	64.75
1/2 V. P. Miniature F4.5.....	12.50
Filmo 70A F3.5.....	32.50
Kodascope B, Proj. self threading, 250w.....	55.00
Many other bargains—trades accepted.	
CAMERA-MART, INC., 110 West 40 St., N. Y. C.	

BARGAINS

Super Ikomat-B, Zeiss F2.8, soft zipper case, excellent condition	\$110.00
Anso-Memo-Copying Camera, complete with Wollensak F3.5 lens	37.50
Brayco Projector, single frame, complete with resistance cord and case	12.50
All in excellent condition, examination privilege.	
F. D. STOLL, 104 W. Chestnut St., Louisville, Ky.	

SHOTGUNS, RIFLES and TARGET PISTOLS and other good firearms accepted in trade at liberal allowances on Leicas, Contaxes, Graflexes, Eastman motion picture cameras and projectors, Weston Meters, and other photographic equipment, motion picture and still. Authorized dealers for every leading manufacturer including Eastman, Zeiss, Leitz, Bell & Howell, Argus, Ampro, Keystone, Da-Lite Screens, etc. All photographic equipment bought, sold and exchanged. Write for quotations on any new or used cameras, projectors or accessories.

NATIONAL CAMERA EXCHANGE
Established in 1914
11 South Fifth Street Minneapolis, Minn.

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CAMERA CRAFT



"On the Avenue"

Bob Wallace

21st Los Angeles International Salon

January 1938

PLICATING MINI NEGATIVES

OR HARMONY

ORIALISM FOR BEGINNERS

PRICE 25c

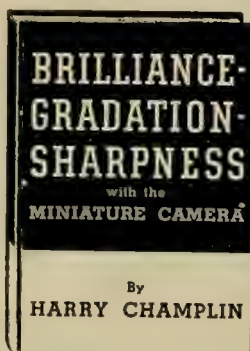
W. Bruce Shields

Henry Weller, Jr.

Harold G. Grainger

Brilliance— Gradation— Sharpness—

With the Miniature Camera



By **HARRY CHAMPLIN**

- The A-B-C and the X-Y-Z too, of miniature photography are **Brilliance, Gradation and Sharpness.**
- Harry Champlin, the brilliant author of **CHAMPLIN ON FINE GRAIN** and the successful experimenter, who originated the **CHAMPLIN FORMULAS**, writes again for minicams.
- His new book deals with those all-important factors of miniature photography **Brilliance, Gradation and Sharpness** in miniature negatives and prints.
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- This book tells **WHY** and **HOW.**
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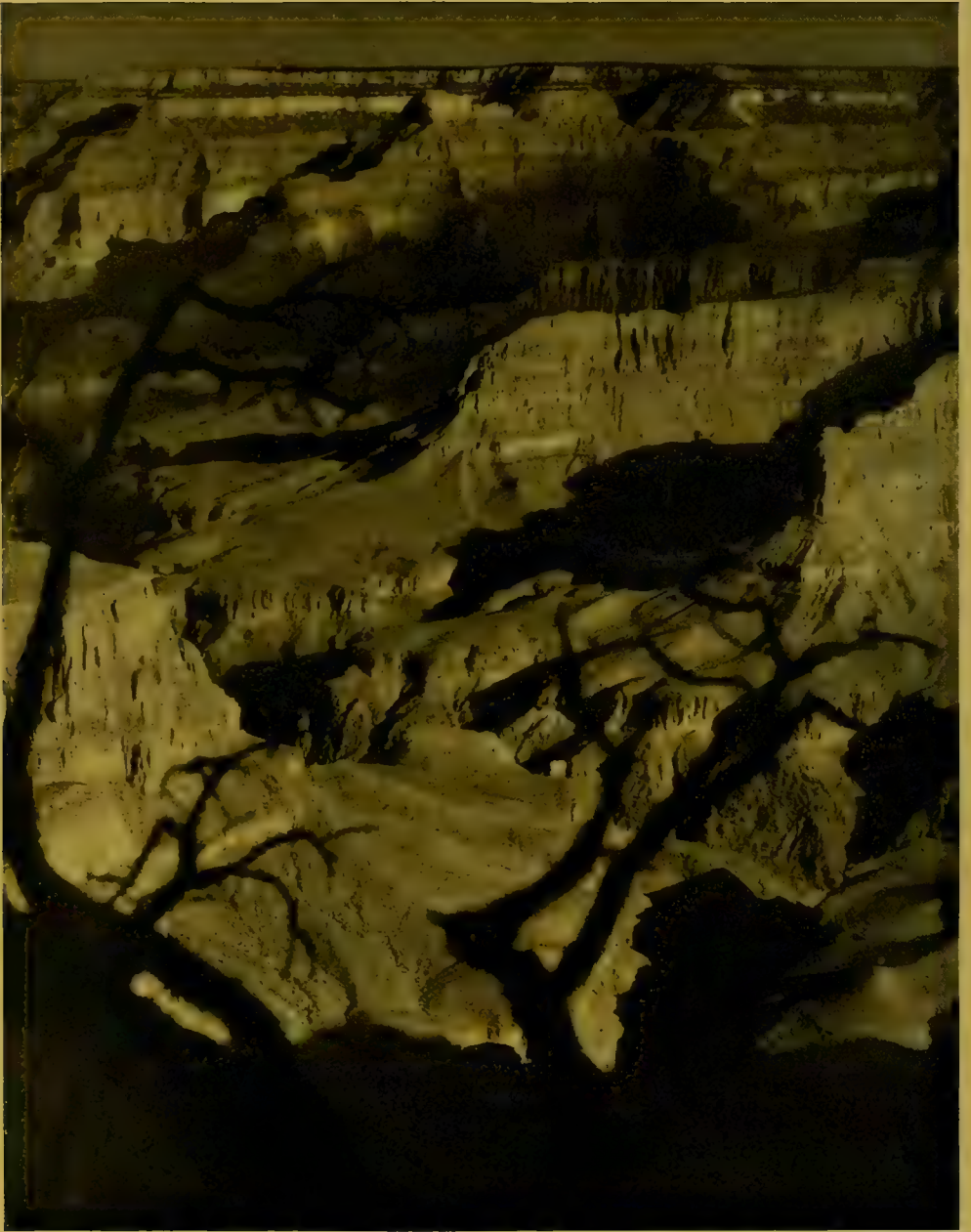
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"The Grand Canyon"

21st Los Angeles International Salon

Kirby Kean

Color Harmony For The Photographer

Henry Weller, Jr.

UPON looking over a list of the present-day processes for producing photographs in color, one is indeed impressed by the abundance of technical information and working procedures and the paucity of information dealing with the science and application of color harmony. With the proper equipment anyone may make suitable separation negatives, and for those who do not care to master the complications of a color process, there are films and plates in which the color is inherent, in either starch grains or a réseau, and they require only the usual processing. At first the novelty of reproducing the natural color of objects excused the often raucous results, but gaudy color compositions, utterly lacking in good taste and appropriateness will not long be tolerated. Shocking color contrasts, often those definitely clashing, may have their place in attracting attention to advertising and billboards, but the discerning photographer will do well to investigate the application of color harmony to his portrait and still-life, so as to obtain the ultimate in artistic expression.

One of photography's great attributes, the rendition of texture, is so enhanced by color that it is no wonder that everyone and almost every industry is becoming color conscious. In an unpretentious color photograph of a bowl of fruit in color, one can almost feel the surface of each piece, and in the rendition of the texture of human skin, color stands supreme. But if it were only a matter of placing a suitable subject before the camera, directing some light upon it, and making the exposure, we would all be artist-photographers. For a given color may be enhanced or wholly nullified by the color that surrounds it; and so it becomes necessary

for every photographer who attempts color to know something about the choice of color for backgrounds, the use of other colored objects in conjunction with his object of chief importance, and the choice of a suitable scheme in keeping with the subject and the thought he is trying to express. In short, he should know his color harmony.

In this short article, an explanation of the rules of color harmony will be given, along with a number of definitions, so that the photographer may gain sufficient knowledge to be able to plan suitable color compositions of his own. He will learn, as a result of this knowledge, to appreciate color in the work of others, and just why an entire composition which is carefully planned seems to "hang together" and be pleasing in its entirety.

Before starting the discussion of color harmony, we must review the fundamentals and define the terms usually associated with color. What then is color? White light is a compound or mixture of all color rays, therefore, we can consider color as an element of white light. This can easily be demonstrated by passing a beam of sunlight through a glass prism and projecting the resulting spectrum on a white card. These colors, known as the solar spectrum, will be the elements comprising the white light entering the prism and will arrange themselves in the order of violet, indigo (blue-violet), blue, green, yellow, orange, and red. This arrangement may easily be remembered by means of the following mnemonic, *vibgyor* (pronounced, vib' ge or), which is coined by using the initial letter of each of the colors in their *correct* order. To prove that these spectral colors are the elements, which combined, produce white light, it is only necessary to pass them through another prism in reverse position, and the result will be white light.

The prism splits up the light by means of dispersion. Drops of water also exhibit this property. The classic example of which is the rainbow. Here sunlight, passing through each raindrop at the proper angle, forms a small spectrum, and millions of these spectrums, joined together and overlapping, form one giant rainbow across the sky.

Soap bubbles split up the light by means of another method, interference. The cause of the interference lies in the thinness of the film, often only a few wave lengths thick. The colors are due to the interference between two rays of light coming from the same light source.

But most important of the methods of light decomposition is selective reflection, or selective absorption, because most of the color we see results from this special property of paints, dyes, grass, flowers and most things in nature, to absorb certain wave lengths of light and reflect the rest. Therefore, if we illuminate a flower with white light and it absorbs all colors but blue, the flower will appear blue to our eyes. Actually the flower has no color of its own, but only the property to selectively reflect and absorb what colors it will, and we find it convenient to talk about things in terms of the colors they reflect. A white object reflects all the color incident upon it.

In a previous paragraph, we mentioned the spectrum. Instead of visualizing the spectrum as a horizontal or vertical row of various color bands, let us imagine it in the form of a circle or wheel with each color as part of a spoke in the wheel. This is the familiar painter's circle or



"Yaquina Head Lighthouse"

Orville Logan Snider

21st Los Angeles International Salon

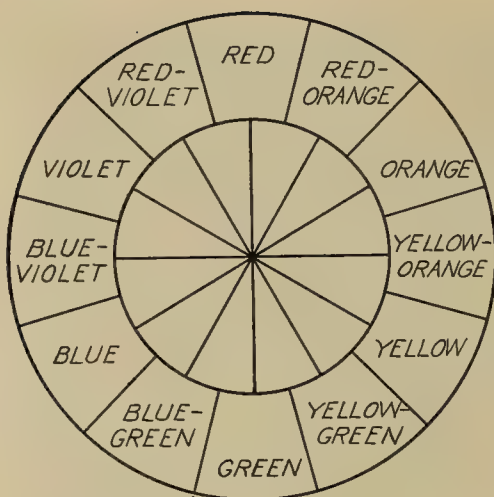


Figure 1

color wheel. Figure One. With this device it is easier to visualize and work out the various forms of color harmony, and it is an excellent idea for every photographer to have a colored one for ready reference. They are procurable at any art store. The one here reproduced will serve for reference in the following discussion of color and color harmony.

In photography we are dealing with light and it now behooves us to state the light primaries and their complements:

Primaries

Blue-violet
Green
Red-orange

Complements

Yellow
Magenta
Blue-green

Primary colors are those which cannot be produced by mixing any other colors, and the light primaries are approximately the colors of the ABC₅ set of Wratten color separation filters. Secondary colors are those made by mixing two primaries. Complementary colors are two which combined neutralize each other.

It must be remembered that we are now dealing with *light*, not pigment. Young demonstrated that any color sensation could be produced by combining in the proper proportions the three light primaries. These colors must not be mixed as are pigments, but additively, as with the Clerck-Maxwell disc. Patches of the colors to be mixed are placed on the disc and rotated rapidly. Then, due to persistence of vision, the combined effect of these colors will be seen. If the three primaries are placed on the disc, the effect will be white. The following observations may prove of interest.

An object appears of a red-orange color, when illuminated by white light, because it reflects red-orange. It therefore, absorbs blue-violet and green. A green object reflects green and absorbs blue-violet and red-orange. A blue-violet object reflects blue-violet and absorbs green and red-orange. We are now referring directly to the process of selective absorption and reflection. But suppose we have a yellow object; what is



"Laughing Nature"

William G. Housekeeper

21st Los Angeles International Salon

taking place here? The yellow object is reflecting green and red-orange and is absorbing red-violet. Similarly, a magenta object is reflecting blue-violet and red-orange and absorbs green. A blue-green object reflects blue-violet and green and absorbs red-orange. If two projection lanterns had respectively a green and a red-orange filter in their beams of light, and, assuming the illuminant was white light, the beams were superimposed on a white wall, the resulting color sensation would be *yellow*. This is called combining colors *additively*.

The pigment primaries and complements are different than the light primaries because here we are dealing with the color of physical objects. The definitions for primaries, secondaries, and complements are the same but, of course, the colors are different. The pigment colors are:

Primaries	Complements
Blue	Orange
Yellow	Violet
Red	Green

On the color circle, the complementaries are located directly opposite the primaries. No combination of pigments will produce blue, yellow, or red. A mixture of blue and yellow produces green, because green is the only color not in the mixture, it is not absorbed by blue or yellow and is therefore reflected to the eye. Similarly a mixture of yellow and red produces orange, and a mixture of blue and red, violet. If we look through two piece of glass, one blue and the other yellow, the result is green. Now blue glass absorbs orange which in turn is a mixture of yellow and red, and the yellow glass absorbs violet which is a mixture of blue and red. The only color not absorbed is green, and that is the color that gets through both glasses and is seen by the eye. Hence the method of producing color by mixing pigments is a *subtractive* process.

The Three Dimensions of Color

In order to describe fully and talk about color, three properties must be stated: Hue, Chroma, and Value. Hue denotes the place in the spectrum, *i. e.* red, yellow, green, etc. Chroma is referred to by the scientist as purity or saturation, but a better term to use is intensity. Intensity refers to the strength of a color, and is the quality that distinguishes, for example, a strong or vivid green from a weak or dull green. Value to the scientist is brightness, and refers to the amount of light and dark in color. It is the quality that distinguishes, for example, a light green from a dark green.

Analogous Colors—From now on, it is a good plan to refer to the color circle, Figure One, so as to help in fixing in mind these various definitions. Analogous colors are those which are closely related, such as, green, blue-green, and blue. Another set might be, red, re-orange, and orange.

Triads—Triads are formed by three colors which form an equilateral triangle on the color circle. For example, red, blue, and yellow.

Warm and Cool Colors—The colors usually referred to as warm colors are those containing red and yellow. They comprise half of the color circle, from violet through red and orange to yellow. The cool colors contain blue and green and comprise the other half of the spectrum or from violet through blue and green to yellow.

Keyed Colors—Colors which are similar in value and chroma are referred to as keyed colors.

Neutralized Colors—Are made by mixing a color with a small amount of its complement, or "grayed" by the addition of black or gray. Grayed colors suggest dignity and reserve.

Color Contrasts—Colors are made to seem weak or strong, poor or rich by the other colors which surround them. A color seems stronger when placed beside its complement. Contrast may also be obtained between light and dark colors, called value contrast; between dull and bright colors, chroma contrast; and between unrelated colors, such as between two complementary colors, this is called hue contrast. If your composition finds itself abounding in and becoming monotonous with various shades of green, place a small amount of red near the point of interest and note how the green seems to come to life.

Psychology of Color—Through association, various colors have come to have certain general meanings and to express certain feelings. Red is usually suggestive of stimulation or excitement; Magenta, richness; Purple, dignity and stateliness; Blue, coldness; Green, repose; Yellow, coziness and hospitality; and Orange, joyousness.

Analogous Harmony—From the foregoing definition of analogous colors, it will be easy to understand how to make a composition of analogous harmony. Colors which are closely related to each other, such as red, red-violet, and violet will produce this harmony. Do not use only the spectral colors. Use rather, various tints, shades, and stages (of chroma) of these colors according to the dictates of the subject and the mass composition.

Monochromatic Harmony—Is that harmony made up of various tints, shades, and intensities of one color, as its name implies. For example, a harmony may be made up of cream, tan, amber, beige, pongee and apricot. All these being variations of one color, yellow-orange.

Complementary Harmony—May be made up of colors that are opposite each other on the color circle. Sometimes it may be advisable to use two (or more) pairs of complementary colors. For example, red and red-orange with green and blue-green. It may also be desirable to split the complementaries, *i. e.* instead of using violet with yellow, use rather red-violet and blue-violet contrasted against the yellow. This may be done with groups, but must be done carefully so as to avoid too much variation and clashes. Appropriateness and good taste should always govern the choice of harmony. There is still another harmony that may be produced.

Triadic Harmony—Use various tints, shades, and intensities, of triadic colors.

In lighting for color, it is imperative to keep the shadows well illuminated, as heavy shadow will reproduce as a dark, uninteresting area. A good system to use is to light your subject, whether still-life or portrait, with directional and spot lights to render detail and give modeling. Then with a bank or high wattage lamp (such as the number four Photoflood) close to the camera, illuminate the shadows. Do not try for a light and dark scheme, use contrasts of color. Choose such a harmony that while it is in keeping with the subject, it will by means of color contrast, emphasize

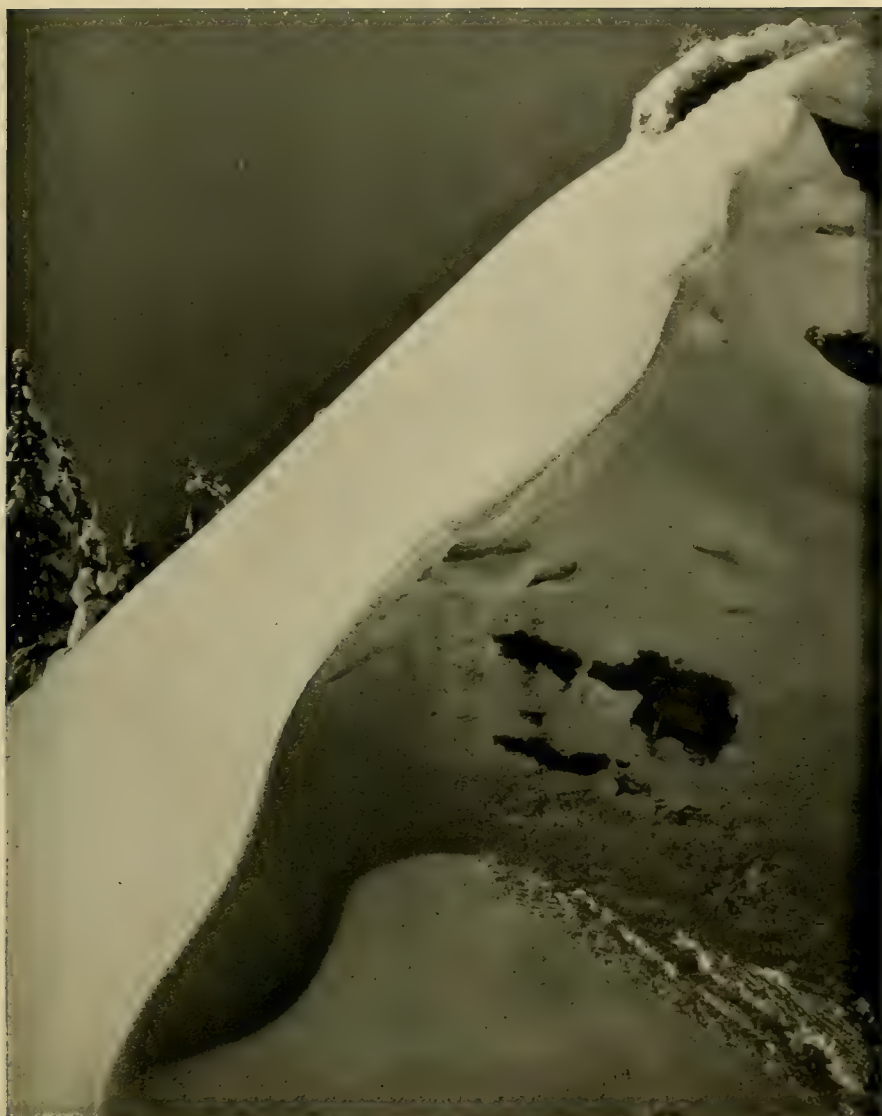
the most important object or feature. Portraits made against a dark background, seem to have an almost stereoscopic effect. Brown makes an idea background color. The background should be placed from about four to five feet behind the sitter and must be separately illuminated. Do not depend upon the main lighting to illuminate the background. It will reproduce too dark. In all instances keep the background color quiet and unobtrusive.

Most organizations have their own color consultants to arrange the color sets for the photographer, but certainly anyone, whether amateur or professional, who is capable of becoming a good technician can learn the simple rules of color harmony here stated. And there are many ways for the observing photographer to increase his knowledge of and indulge in the practice of color harmony even when away from paint pots and the studio.

Observe color in nature! Note the analogous harmonies in flowers. These harmonies often comprise a quarter of the color circle. Complementary harmonies may also be found in flowers. The yellow pansy has a violet heart. Birds also exhibit this harmony. The coat of the ruby-throated hummingbird is in complementary harmony to its throat band of bright red feathers. Perhaps nowhere in nature is there such a display of complementary harmony as in a brilliant sunset. To supply added interest, this display is ever changing during its course. Some amateur cinematographers, using color film and the single frame movement of the camera, have made an exposure, at frequent intervals, during a sunset. When projected on the screen, the gradual color change was very apparent. An expanse of water in the foreground will give added effects due to reflection. Such a film would be of inestimable value for future study of color in nature.

One might go on at great length citing the many examples of color harmony in nature, but no list, however incomplete, should conclude without mentioning the harmony to be seen in autumn foliage. Here we see the brilliant harmony of red leaves, which have already turned, against the still green leaves, tied together with dashes of yellow, and completely harmonized by the longer, more orange rays of the sun. Half of the color circle being used in this grand display.

In this short writing are to be found the fundamental rules in the study of color and an attempt to arouse the reader's interest in nature appreciation. The photographer who is really interested in furthering his knowledge, would do well to consult books on the subject and practice always a close observation of nature. For in the use of color, will be found a means of expression far greater than in the practice of black and white photography. Many business houses have realized the power of color to attract attention to their advertising, especially by inserting colored pages in their catalogues. They too have realized that they can say things in color which they could not have done in black and white.



"Majesty"

Grant Duggins

21st Los Angeles International Salon

Notes On Duplicating Miniature Negatives

W. Bruce Shields

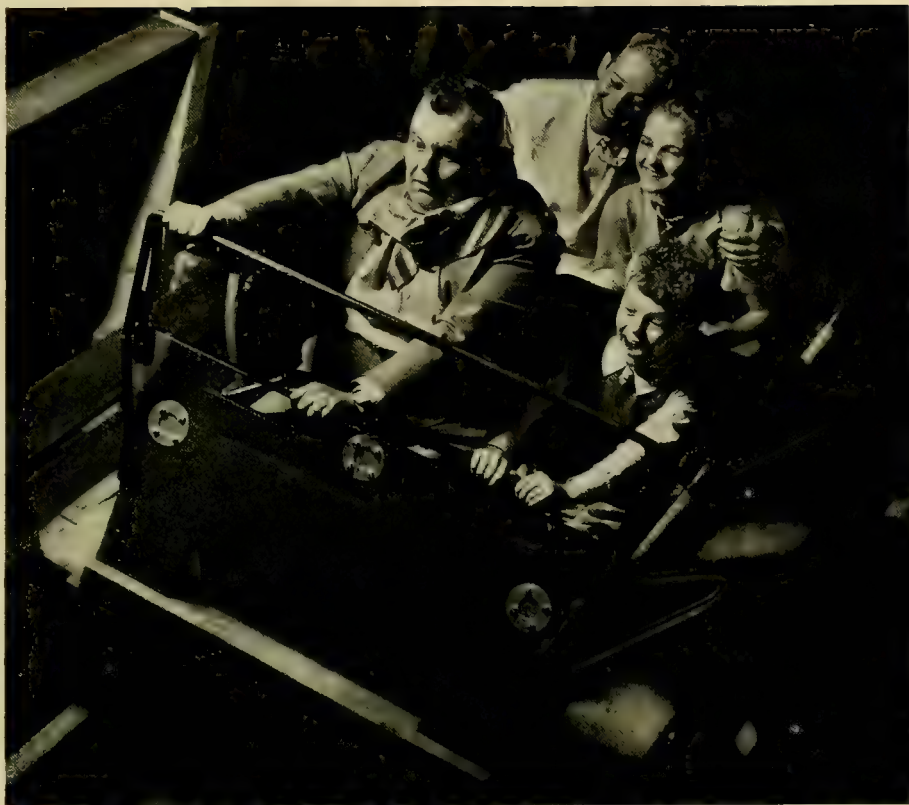
OCCASIONALLY there arises the need for a duplicate of an original miniature negative. Using your duplicate negative and filing away the original and master positive affords double insurance against loss or damage of the original negative. The use of the duplicate negative saves your original from the finger marks, scratches and abuse a much used negative is always exposed to. In case the duplicate negative is damaged, another may easily be made from the master positive.

Duplicate miniature negatives may be made by making an enlarged reversal positive, or by making an enlarged film positive and printing a film negative from this by contact. Usually these methods are too expensive to justify their use when the duplicate negative is made merely to insure against the loss of, or damage to, the original negative. Duplicate negatives may also be made with paper positives and paper negatives, but the excess graininess can only be eliminated by using film.

The only advantage in enlarged duplicate negatives is that they may be retouched. However, the economy of the following contact method more than offsets this disadvantage; in most cases retouching is usually unnecessary.

The use of regular motion picture duplicating materials provides an inexpensive and simple means of obtaining a true and accurate reproduction of original negatives made on motion picture film. Results obtained by using regular positive stock are unsatisfactory. Emulsions for making duplicate negatives should have latitude and resolving power enough to correctly reproduce the tones and fine detail of the original negative and yet be no more grainy. Eastman Duplicating Positive, also known as "Master Positive" and Eastman Duplicating Negative Films were developed especially for this purpose. These films have been used for a number of years by the country's leading Motion Picture Laboratories.

Both of these materials are dyed. Eastman Duplicating Positive has a lavender base; mainly to identify it and make it easily distinguishable



"Carnival Express"

Horace Hime

21st Los Angeles International Salon

from Regular Positive. This lavender base also acts as a filter while printing the duplicate negative and tends to increase the contrast. Eastman Duplicating Negative has a yellow dye embodied in the emulsion. This yellow dye reduces any possible halation and increases the resolving power of the emulsion.

"Short ends" of 100 feet or less may be obtained from most of the motion picture processing laboratories doing this type of work, for about 2 cents per foot (8 Leica exposures). When ordering be sure to state which types of the two materials are wanted. These types and their characteristics are noted at the end of this article.

Cleanliness and proper development technic can not be over-emphasized. Any dust or defect in the original negative or the master positive will be transferred to the duplicate negative and hence be greatly magnified in the final projection print. Therefore, all equipment must be as free from dust as possible. Glass on the contact printer or in the printing frame should be thoroughly cleaned. Dust, light fingerprints and water marks, caused by uneven drying on the base side of the film, may be

removed from original negative and master positive before printing by wiping with a soft lintless cloth moistened with Carbon Tetrachloride (Carbona) and allowing it to evaporate. (Carbon Tetrachloride does not affect the image.) In printing the master positive and the duplicate negative, perfect contact must be maintained to avoid loss of definition.

Much of the success in making duplicate negatives depends upon correctly estimating the exposure when printing the master positive. The use of The Orelup Integrator, originally designed for determining the correct exposure and contrast for enlarging papers, will be found advantageous for determining the correct printing times for duplicating materials. Aside from the saving in time and materials, it provides a means of accurately recording your experience for future reference. Integrator factors for exposing these duplicating materials on a contact printer will be found in Table 1. If no contact printer is available, the materials may be exposed in a printing frame using a 100 watt frosted bulb as the light source. Table 2 will serve as a guide in estimating exposures. Over or under-exposures should be corrected by varying the distance of the light source rather than by a rheostat. Varying the intensity of the light source with a resistance changes the color of the light, which has a considerable influence on the contrast of the print.

For best results the master positive should be developed in D-16 for 8 to 10 minutes at 65 degrees F. Master positive may safely be handled in the light of a Wratten Series 1 safelight. Most fine grain developers, including D-76, are not capable of giving sufficient contrast unless development is carried so far that there is danger of getting too much development fog. By experience I have found that my best master positives are obtained by developing in D-16 for 9 minutes at 65 degrees F. and controlling the density by varying the exposure. By keeping the developing time and temperature constant, the resulting densities from several exposures may easily be compared and the correct exposure time determined.

A correctly exposed master positive is considerably denser than a correctly exposed film slide and will have an over-printed appearance. Some of this apparent density is due to the lavender colored base. Master positives should be timed for the highlights, allowing the shadows to take care of themselves. The resultant veiling or greying-over of the highlights is necessary to prevent the final paper prints from having a washed-out appearance.

Master positives are fixed, washed and dried the same as film slides or regular negatives.

A good duplicate negative should be so timed and developed that a print made from it will be an accurate facsimile of a print from the original negative; reproducing faithfully the tones, definition and freedom from graininess of the original negative.

It is necessary that the duplicate negative be given sufficient exposure to slightly veil the shadows, even though the shadows in the original negative are clear. Underexposure of the duplicate negative causes lack of quality in the shadows of the final print. Over-exposure causes lack of quality in the highlights and increases grain. The duplicate negative should appear slightly denser than the original, though this is not impor-



"Sunshine"

Herman V. Wall

21st Los Angeles International Salon

tant if the tonal range of the original negative has been accurately reproduced.

Duplicate negatives should be developed in a fine grain developer, preferably D-76, to approximately the same contrast as the original negative. Slight over-development is to be preferred to under-development. A Wratten Series 2 safelight must be used while processing. The average developing time in D-76 at 65 degrees F. will be 6 to 8 minutes.

Rinse for about 3 minutes in water and fix for 20 minutes in an acid fixing bath. After fixing, wash in running water for about an hour. Mottling or unevenness of the dye in the emulsion indicates insufficient fixing or washing.

Conclusion

Most of the material for the above article was obtained from the experience gathered while duplicating nearly a hundred identification portraits. These original negatives were made with a Leica, on Dupont Superior and developed in D-76.

The complete data of an average negative from this group follows:
Integrator reading of original negative.....130

Exposed for 10 seconds to a 100 watt frosted bulb at 50 inches
on Eastman Duplicating Positive.

Developed for 9 minutes at 65 degrees F. in D-16.

Integrator reading of master positive..... 9

Exposed for 19 seconds to a 100 watt frosted bulb at 18 inches
on Eastman Duplicating Negative.

Developed for 7 minutes at 65 degrees F. in D-76.

Integrator reading of duplicate negative.....145

(About one-half the distance between the figures 130 and 160
on the Model 650 Weston Meter.)

All data given in this article is for Eastman Duplicating Positive, Regular (No. 1355) and Eastman Duplicating Negative, Regular (No. 1503).

Eastman Duplicating Positive, Type B (No. 1362) is approximately the same speed as Regular (No. 1355), but gives a higher contrast with the same development time. Type B is used principally for original negatives having little contrast. If used with negatives of average contrast, the development time should be shortened. However, the author has obtained good results with flat original negatives on Regular (No. 1355) by increasing the development time.

Eastman Duplicating Negative, Fast (No. 1505) is approximately two and one-half times faster than the Regular (No. 1503). The Regular is to be recommended, as long exposures are easier to time accurately than short exposures.

By following the notes and suggestions given above, any miniature enthusiast can easily duplicate the results obtained by the author. Careful notes made on experiments with your own equipment will prove helpful in saving time and materials on later processing. Making accurate duplicate negatives requires no more painstaking efforts than is needed in any miniature processing.

Table 1.

Orelup Integrator Factors For Duplicating Materials

Eastman P.M.C. No. 1, contrast.....	1.0
Eastman Regular Motion Picture Positive.....	1.2
(For Film Slides)	
Eastman Duplicating Positive	2.5
Eastman Duplicating Negative	19.0

Table 2.

Exposure Guide For Duplicating Materials

Eastman P.M.C. No. 1, contrast.....	4 seconds
Eastman Regular Motion Picture Positive.....	5 seconds
(For Film Slides)	
Eastman Duplicating Positive.....	10 seconds
Eastman Duplicating Negative.....	1 minute 16 seconds

All exposures are for a 100 watt frosted bulb, without reflector, at 50 inches.

Exposure for the Duplicating Negative may be shortened to 19 seconds by placing the light at 18 inches instead of 50 inches.

Eastman Formula D-76

	<i>Avoirdupois</i>	<i>Metric</i>
Elon.....	31 grains	2.0 grams
Hydroquinone.....	77.5 grains	5.0 grams
Sodium Sulphite, desiccated (E. K. Co.).....	3 ounces 230 grains	100.0 grams
Borax, granular	31 grains	2.0 grams
Water to make.....	35.5 ounces	1.0 liter

Average time of development of Eastman Duplicating Negative:
6-7 minutes at 65 degrees F. (18 degrees C.)

Dissolve chemicals in the order given.

Use without dilution.

Eastman Formula D-16

	<i>Avoirdupois</i>	<i>Metric</i>
Water.....	15.0 ounces	750.0 cc.
Elon.....	3.1 grains	0.31 gram
Sodium Sulphite.....	396.0 grains	39.6 grams
Hydroquinone.....	60.0 grains	6.0 grams
Sodium Carbonate, desiccated.....	187.0 grains	18.7 grams
Potassium Bromide.....	8.6 grains	0.86 gram
Citric Acid.....	6.8 grains	0.68 gram
Potassium Metabisulphite.....	15.0 grains	1.5 gram
Cold water to make.....	20.0 ounces	1.0 liter

Average time of development for Eastman Duplicating Positive:
8-10 minutes at 65 degrees F. (18 degrees C.)

Dissolve chemicals in the order given.

Use without dilution.

Pictorialism

For Beginners

Harold G. Grainger, A.R.P.S.

Part IX: Importance of the Foreground

IN a recent contribution to this series of illustrated articles attention was directed to the importance of good grouping; that is, such arrangement within the picture space of constituent parts of a subject as will make an agreeable pattern or design. It was shown that without this sense of agreeableness—an intangible something which appeals to the aesthetic side of one's nature, picture making efforts must fail in a greater or lesser degree. On the other hand, where this desirable quality is in evidence, a great advance has been made towards the successful planning of a picture. In the endeavor to obtain this satisfactory co-ordination of parts which may be regarded as fundamental for ensuring the unity of the whole, the earnest student of art principles soon finds that much depends on his judgment in the selection of viewpoint.

Provided there is scope for free movement, the opportunity to consider a subject from different angles is one of the most valuable assets of the photographer. It gives him opportunity to design or plan—to compose, if you will, his picture;—his is the decision as to how constituent parts are to occupy the picture space. It would be a very poor subject indeed that did not merit some preliminary care before the shutter is released—at least a little time spent to make sure that, when developed, the negative will be worth printing. If only to safeguard the impetuous against those over-hasty decisions to make exposures which are directly responsible for more disappointments than is generally realized, this determination to consider things beforehand is commendable.

I feel strongly that the foreground, more than any other part of a subject, best repays attention spent upon it. I do not mean, of course, that the near parts of the subject must always contain some important object or interest;—rather is it my desire to convey that whatever is in the foreground should be made to pull its weight in the success of the picture. It is inevitable that the foreground will attract attention because, in a



Print A



Print B

measure, it can be considered a foundation or base on which the subject depends for support; something to give it a reliable stance.

Here are a couple of illustrations of an ancient bridge with a cathedral tower beyond which verify this statement regarding the positive value of well selected foregrounds. Print A, it will be immediately obvious is an example of hurried decision to make the exposure. Compared with its companion print B one feels that the shutter was operated before the possibilities available had been properly appraised. The bridge, the dominant feature, is shown with an incomplete arch at each end; an awkward arrangement responsible for the impression that, despite its bold buttresses, the structure has no proper contact with the banks of the river. Moreover, disappointingly, the contour of its top extends unbroken and unfinished across the picture. From a strictly artistic standpoint the concrete foundations at the base of the two nearer buttresses, so necessary for the stability of the bridge, attract far too much attention;—they are, unsuitably, the high lights of the picture, a circumstance due to the color of the concrete employed.

Now examine print B, which, taken from a position a little further away from the bridge, gave opportunity to include in the forewater a number of anchored boats. This new viewpoint not only secured the positive advantage of an extra plane but by the addition of water-side dwellings and gardens on the left, enhanced considerably the beauty of the reflections which add so much to the value of the picture. The skyline is much better, too; the tower of the cathedral, especially, now more to the right, being seen to greater advantage.

To sum up, print A, lacking a satisfactory plan either in arrangement of component parts or distribution of its areas of dark and light tones is, in comparison with print B, very tame. Nor does it possess the sparkle, the animation of B which, even without figures has, in the boats, something which suggests association with men of athletic type. That the light tones of the residences on the river-side contribute to the picture adequate compensation to offset the dark tones of the boats and bridge shadows is another important reason why B is, pictorially, in a much higher class than A.

Two illustrations of an old water mill, (C) without, and (D) with, foreground interest prove perhaps more forcibly the value in pictorial effort, of paying attention to near parts of the view. In the first named,



Print C



Print D

the mill, from a position below and on the same side of the river appears austere, frigidly aloof in its insularity. Only one peep of distant trees and the waterfall relieve the print from banality. As a picture of an old brick-built tiled mill, mellowed with long exposure to the elements it is disappointing; a failure due to a total lack of anything in the foreground which, in the hope of embodying some quality of picturesqueness and good arrangement into the scene, could be usefully employed for this purpose.

From the opposite side of the river scope for picture making was, as shown by illustration D, fortunately found to be much better. Not only was it here possible to select a viewpoint which showed the mill beyond an excellent foreground of trees linked together by wild flowers and tall grasses of the river bank, but the contours of the subject matter were so much better disposed for picture making. In place of the almost forbidding harshness of practically nothing but straight lines shown in print C, we have in print D graceful curves provided by the trees in the foreground, beyond which the mill and the water on which it is dependent, are seen much more advantageously. As in the case of our bridge picture. B, this view of the mill incorporating foreground interest demonstrates the inestimable value of not only careful selection, but thoughtful control of such picture making material as may be available. There is also in this print the additional charm of variety of line; foreground curves contrasting pleasantly with the hitherto dominant straight lines of the mill. It is to this break away from the monotony of straight lines that print D owes its artistic supremacy over print C.

Further testimony to benefits derivable from the wise choice of viewpoint and employment of suitable foreground interest is seen in the couple of illustrations (E and F) of a harbor scene. The constituents common to both views comprise a cloudless blue sky, fishing boats drawn up on a pebble beach on which, here and there are odd pulleys and ropes; and outspread nets drying in the breeze. In print F, however, there is something more. By taking up a viewpoint further from the boats, a lady artist and a friendly boy critic have been included as foreground interest, a decision which makes this the superior of the two pictures. It is worthy of note that the introduction of these figures is valuable in two respects.



Print E



Print F

Firstly, by their presence an otherwise relatively dull scene is made animate—life has entered into it; secondly, the artist's sketch block, an area of white has, in collaboration with the sunlit parts of the lady's dress, infused brightness into a rendering which, without this high light, would be altogether in low tones. While some may look upon these figures as *balance* to the heavy masses of tone in this picture, I consider *compensation* is decidedly the more appropriate word, as balance necessarily implies an equalization of equivalents, whether bulk or area.

While the attention of the readers has hitherto been directed in a more or less general way to the advantage in pictorial efforts, of some foreground interest, I would now go further and endeavor to show how necessary it sometimes is to select the viewpoint with more than usual care if maximum benefit is to be assured to the eventuating picture. The most suitable arrangement of the foreground in relation to the rest of the subject is a matter of consequence; indeed, as is well known to those whose works are consistently on view at the more important salons, it is frequently the pivot on which the ultimate success of the picture depends.

I shall be glad if readers will (in imagination) go along with me to the extensive remains of a one-time Cistercian abbey of first importance, England's premier ecclesiastical ruin. In its decayed state it provides remarkable opportunities for the exercise of skill in picture making. Here are available subjects of an entirely architectural nature; others, delightful combinations of architecture and landscape; others again in which a rivulet adds additional charm. A favorite corner, where once stood the home of the princely abbot, a place of broken pillars and detached heads and bases of stone columns, is where one can find something suitable for our present illustration requirements. These fragments of the architect's and builder's art of the Middle Ages are to be employed, in association with the remains of the unusually fine abbey church across the well-kept lawn, in the preparation of an exhibition picture.

Our first illustration, G, cannot meet with approval as a picture because the component parts are not grouped satisfactorily. It is obvious that the exposure was made from a too-high viewpoint, for the stonework in the foreground is more or less a separate entity in the arrangement or plan. It gives the impression of spreading itself without order over too



Print G



Print H

great an area of the picture space, until, detrimentally to the general effect, only a very small portion of the church appears in the view.

Illustration H is a big improvement on G, but unfortunately the nearest upright column base, in dark tones, is shown practically in a line with sun-illuminated portions of the church immediately above, an objectionable arrangement. Though more of the church ruins are shown in this effort, they are insufficient to do justice to this important part of the ruins. In addition, the low, broken walls between the two groups of pillar bases block up altogether what might otherwise have been a useful opening, or way into the picture; something which would have effectually linked the foreground with the middle distance. As with illustration G, the emptiness of the bottom left corner is far from being a helpful feature.

Illustration I is, in some respects, better still, for besides a more interesting foreground, due to incidence of sunshine, the arrangement includes a pleasing background of trees on the left. A serious weakness, however, is the palpable proximity of the church to the margin. One gets the impression that this, the most brilliant feature of the picture, one moreover that is obviously of importance, has not received a proper measure of respect,—that it is only there on sufferance, as it were. It is a great pity that more of the edifice was not included. Another disappointing feature is the isolation of the church and foreground into separate entities by the unfortunate arrangement of the broken stonework between them.

Coming now to illustration J this is, on the whole, the most satisfactory of the four views. Note, first of all, the arrangement of the foreground stonework, the same material as on the other views, but so distributed in this instance that a space can be seen between two groups. This way is a naturally prepared path into the picture along which the eye can travel from any part of the foreground, across the lawn, directly to the church—a valuable feature largely responsible for making this the best of the four efforts. In addition, this view is the only one in the group which shows the ruined church in a manner appropriate to its exalted position. In this particular abbey it is, architecturally, one of exceptional grandeur.

We must now leave the subject of foreground. Their importance will, I feel sure, be appreciated. Good, bad or indifferent, it is inevitable that



Print I



Print J

this part of the pictorial effort will have, because of its position, a prime influence on the rest of the subject. Treat it sympathetically—see that everything else is so placed that lines and masses of tone and area of light are well displayed in relation to it; not too close to the corners or margins is always a very sound rule, as by so doing there is little difficulty in keeping the attention well within the picture space.

Photographic Bench

T. E. Euler

THIS bench serves a dual purpose for its designer in that it solves the problem of making movie titles and also meets with all that one could desire in a copying bench for still photography. It was built with a minimum of effort and expense and can be assembled and taken apart in a moment.

The table is 36 inches high by 6 feet long and 2 feet wide. The legs are of 2 by 2 inch pine. The top is made from two pieces of 1 by 12 inch



Figure 1



Figure 4

finished pine fastened at the edges and ends by screws driven into the side boards, which are of 1 by 3 inch pine.

Down the center, lengthwise, is a 2 by 4 inch piece 6 feet long and finished on all sides. This is doweled into the table by half-inch dowels which are glued into the 2 by 4 inch piece, making it possible to remove this center runner at will if necessary.

The easel is a piece of plyboard 24 by 24 inches mounted on sliding trough which is 8 inches long. It is mounted by using two right angle brackets at opposite sides and fastened to the easel by two small bolts passing through the easel and both brackets. The brackets are screwed into the running mount. This assures a perfectly perpendicular easel, which is all important so that distortion of image doesn't result. The table, easel, and runner are all painted a flat black to avoid reflections. One side of the easel is divided by a line vertically and horizontally, which locates the center. By means of white paint and a small brush, small marks are placed one inch apart working from the center out and each fifth mark is larger than the others. This is to enable one to center a title card exactly.

In figure 2 can be seen a small mark in white paint directly under the easel on the running trough mount. Its use will be apparent in a moment.

On the top of the table, right next to the center runner, marks are placed one inch apart in the same manner as used on the easel. Thus, by placing the mark in the easel mount directly over any mark on the table, one knows at what distance the easel is from the camera mount.

The camera mount is a hollow box of plywood with height enough so that the camera lense is on a height with the easel center. (See Fig. 3.) A hole is drilled in the box so that a tripod screw is inserted to screw the camera firmly to the mount. The mount is securely fastened to the center runner. When you have located the position at which the camera is pointing straight at the easel center, a small block of wood is fastened to the top of the mount, flush with the edge of the camera. This makes the setting easy to assume again by merely screwing the camera in place. The white marks on the table top begin at the lens position and continue to the opposite end of the table.



Figure 2



Figure 3

Next, you should determine the "projector field" of your projector so that you will know what size the title cards are to be at the various easel positions. I use the term "projector field" advisedly because not many people know that the field taken on the film by the camera is modified by the size of the opening in the gate of the movie projector, hence a smaller picture appears on the screen than is actually on the film. This can best be done by writing to the manufacturers of your equipment and they will give this information to you. Another way is to set up horizontal and vertical strips, plainly marked, and photograph them at varying distances and read the dimensions of the field on the screen as projected.* The first method is far more accurate and economical. When the sizes are determined, allow an inch all around the card for possible error in setting and you will have a perfectly centered title.

With the title board you can make "zooming" titles, both toward and away from the camera, moving titles by means of double exposures, and it is possible to set up a miniature stage with slight modifications made removable. Leave enough room on the mount in front of camera position for trick devices, such as mask boxes, etc., so that fades, wipes and other effects can be utilized to the fullest.

**For further information on how to determine the camera field for close-up work refer to the Cinema Section in this issue.—Ed.*

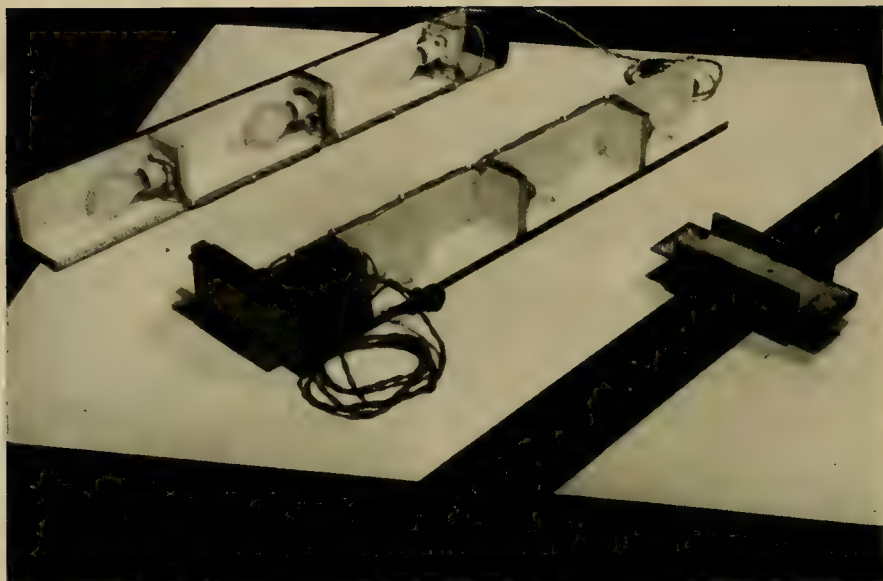


Figure 5

The opposite end of the table is used for copy work of all kinds including small oil paintings. (See Fig. 4.)

The first requisite of a good copy set-up is that both the object plane and the image plane be parallel. If they are not so, image distortion occurs and the result is a very unsatisfactory piece of workmanship.

As a camera stand a tripod is used so that the easel may have a clear field to slide to this end of the bench for movie work. The tripod is set up on the floor, the camera mounted on it. The whole is placed so that by sighting down the camera it is in direct line with the center runner of the bench. The bubble level on the camera is set to level position and the object pinned to the easel at approximately the correct position. The easel is then moved so that the object image, when in focus, just fills the plate. It may be necessary to move the image in order to center it. This is done by utilizing the rising front or the swing motion or both. Do not move the camera. By moving the lens only, the object plane and image plane remaining parallel. Check focus by placing printed matter, on thin paper, against the object and inspect and focus on ground glass. It often helps to focus by having the object upside down on the easel so as to appear right side up on the ground glass.

The lighting arrangement is simple and consists of a cross bar 4 feet long mounted at center on a running trough like that used on the easel. The bar is a 2 by 4 inch piece.

The lights are in two uprights made of 1 by 3 inch material 36 inches high and screwed at the edge to the right angle position as shown in Figure 4. These are mounted on troughs so that they may slide in order to avoid glare spots from reflections on the object. There are three 40 watt

lamps, frosted, in each upright. Each lamp is mounted in a porcelain socket which is screwed in to a square block of wood, which acts as a platform. The three lights in each upright are wired in parallel and end in a prong plug. The two plugs go into a double socket at the end of an extension cord. The assembly knocks down in a jiffy. When set up it is as shown in Figure 4, with the exception of course, that the tripod and camera are placed at the end of the table for copy use, but were used to shoot the illustration shown. The cross bar and outside of each upright are painted flat black. The inside of the uprights are painted white to act as reflectors. (See Fig. 5.)

The lights may also be set up on the movie side to furnish illumination for titles at night.

A Testing Mount

Edna R. Bennett

A PRINT has not reached its full quality of presentation until it has been properly mounted or framed. How many times have you been astonished at the difference between a mounted and an unmounted print? Have you ever noticed the pictures which create the most interest before a jury or an audience? Other things being equal they are the photographs which have been mounted with care and good taste. After all, a mount or a frame is used primarily to segregate the picture from the disturbing influences which surround it.

But, one can rarely afford to mount his entire production of work just to see how they will appear. Also there is the question of storage. An accumulation of mounted prints can take up a great deal of space.

For some time, I have been using a method which I think is superior to the ells which so many people use for testing a composition. They are useful, it is true, when creating a composition on the proof before making an enlargement. But, they do not give you the specific knowledge of the appearance of your picture which you should have. You should have the opportunity of estimating your prints in an environment similar to that in which you ultimately hope they will hang. That is, in an exhibition or on the walls of your home.

The method which I have mentioned is a very simple one. It entails the making of a *cut-out mount*. The size of the cut-out opening will be governed by the size of your prints. You will need only one, if all your work is the same size. Several can be made in different sizes, if you so

desire. Turn over your cut-out mount and in the four corners fasten *envelope pockets*. These slip-on pockets can be easily made at home by cutting the corners from a strong manila envelope. It is possible to purchase these pockets for a small sum. When your prints have been trimmed, it is a very simple matter to slip the print into the pockets. Presto, and your print is mounted!

Now, you are ready to hang it on the wall and see what your efforts have achieved. If, after a trial of several days, the prints prove to be the masterpieces which you are striving to create, you can permanently mount them. Should they prove not worthy of continued effort, the print can be easily removed and another substituted for the test. There are innumerable uses for a testing mount of this type. You can almost instantly show interested parties a completed picture. There are Camera Club competitions to consider when you wish to submit several prints. You can use the testing mounts and the question of new mounts every month is solved. Not to mention last minute mounting when time and juries wait for no man. You have probably lived through a request for unmounted prints to be used in a collection of pictures being sent out as a Camera Club unit. "Yes, we want unmounted prints so that they can be uniformly mounted by the Print Committee." When you know darn well that the mounted prints are the ones that will receive the most attention.

There is no need for you to go through the agony of mounting and unmounting your prints. Use your testing mount. One of the worries of being an ardent photographer has been solved. How much more reasonable than the age-old alibi, "Well, of course, it would look better if it were mounted."

Cinema Section

Edited by
William A. Palmer

Parallax And Close-Ups

ONE of the questions most frequently asked of this department is: How can I tell the exact field of the camera when photographing objects at a very close distance? This is a problem that inevitably arises when one makes titles and it also presents itself when extreme close-ups of head and shoulders are made.

A common experience of a novice movie maker is to attempt to photograph titles, or other small objects at a close distance, and to center them carefully in the camera finder. When the processed film is returned and the titles or other close-up shots are seen to be way off center, the camera owner assumes

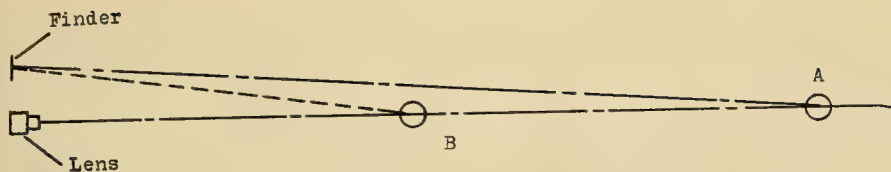


Figure 1.

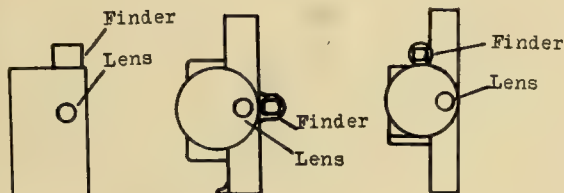


Figure 2.

that the finder has become damaged and requires adjustment and repair. He soon finds out from the polite clerk who sold him the camera that he did not allow for parallax and for that reason his titles are not centered. More often than not, though, the real meaning of parallax is not understood nor does the movie maker know how to allow for it.

The term parallax refers to the apparent displacement of objects at different distances when viewed at different points. For example, if one object is behind another and you look at them with one eye and then move your head from side to side, the two objects will appear to be displaced with relation to each other. First the nearer object will appear to the right of the further one and then the relation of the two objects will be reversed and the nearer will appear to the left of the further one.

In the moving picture camera, the finder and the lens view the scene from two different positions and therefore the relation of objects at different distances is not the same for both finder and lens. Because the finder and lens are rather close together, the difference in their views of objects ten feet or more from the camera, is so nearly identical that parallax is not a problem, but when working at distances closer than ten feet the difference becomes important. The closer the working distance the more prominent is the parallax difference and so in title shooting, which is usually very close and at the same time must be accurately centered, parallax is a great problem indeed.

The effect of parallax between the finder and lens is shown graphically in figure 1. The two objects A and B are placed at different distances from the camera but along the center line of the lens. The finder, placed to one side of the lens and centered on the further object A, will show the nearer object B to the right of A, when actually the lens will record the two objects as being in a line. The finder could be adjusted to center on the nearer object B but then the further object would not appear to be centered when viewed in the finder.

Corrections for Parallax

As mentioned above, the difference in the views of the lens and finder is so slight when photographing objects ten feet or more from the camera, that parallax can be forgotten. But in the region of close-up shooting, from three to five feet away, parallax must be considered. Most cameras have some means for compensating for parallax or adjusting the finder so the principal close-up object is centered. As can be seen in the diagram of figure 1, even though the finder is adjusted to center the closer objects, it still cannot show the exact view taken in by the lens.

The methods of compensating for parallax depend upon the construction of different makes of cameras, particularly upon the position of the finder with relation to the lens. In figure 2 is shown the relative positions of finders and lenses of three popular makes of cameras. On the left is the typical finder position on the Eastman Cine Kodaks. The finder on these cameras is placed directly above the lens and they have only vertical parallax. That is, the finder indications of the lateral limits of the picture remain accurate at different distances, but the top and bottom margins on close-ups must be compensated to get the scene framed correctly. The Eastman method of doing this is to place engraved lines on the finder glass to indicate the top of the scene at six feet and at two feet.

In the center of figure 2 is the Bell and Howell Filmo. Here the finder is placed directly alongside the lens and so there is only horizontal parallax, the top and bottom limits of the scene being accurately indicated at all ordinary distances. The Bell and Howell method of compensating for parallax is by the use of an "alignment gage". By the use of this attachment, the scene is centered in the finder and then the whole camera is shifted laterally so as to position the lens in the same place that the finder occupied. With this system, the finder can be made to give a very accurate indication of the exact camera field, free from parallax, at moderately close distances. Without the alignment gage, the Bell and Howell owner must remember to aim his camera slightly to the left when taking close-ups.

At the right of figure 2 is shown the Victor camera finder position. The finder on this camera is both above and to one side of the lens. This gives rise to both vertical and horizontal parallax and is compensated by a built-in device which changes the position of the eye-piece of the finder, thus changing the direction of the finder's view. Other makes of cameras have finder positions similar to these three.

All of the parallax compensating devices are satisfactory for moderate close-ups when the photographer remembers to use them, but they are not accurate enough as a rule to give perfect centering of objects closer than two feet. None is really accurate enough for title work, and so other methods of centering the camera on titles must be used.

There is one camera, of course, which has a device that will show the exact field of the lens at all distances and that is the Cine Kodak Special with its focussing device. This device operates through the lens and therefore is completely free from parallax.

Accurately Centered Titles

Since most finders show parallax effects, they are useless to show the field of the lens at one- and two-foot working distances which are common in title

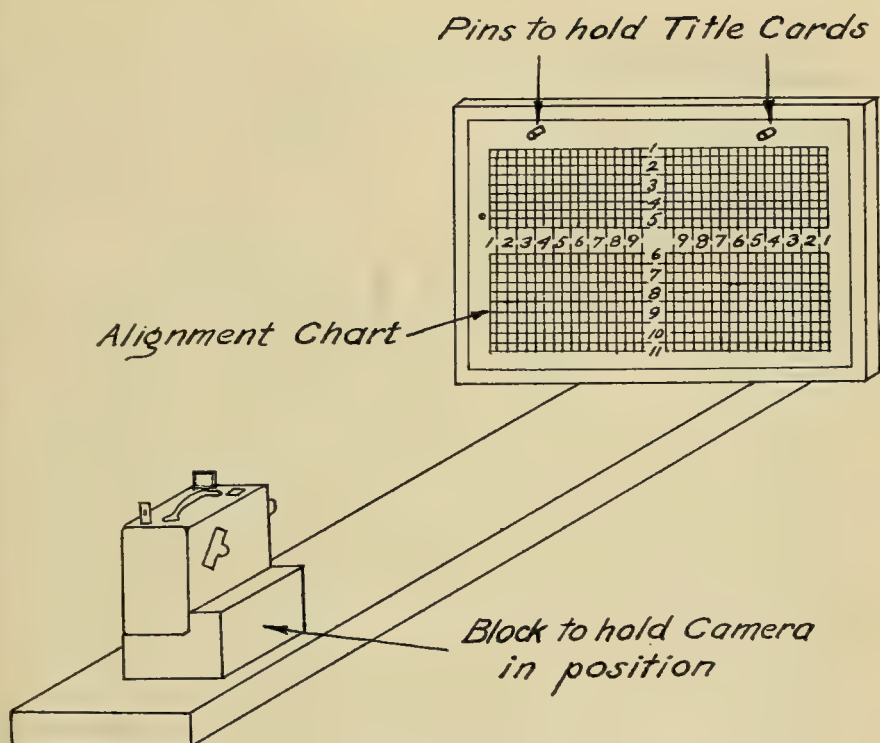


Figure 3

work. The accurate determination of the field limits, then, must be done by some method that does not involve sighting through the finder.

In the past, this department has recommended two procedures which have proven very satisfactory. The first, which we may call the "trial" method, involves the construction of a simple title stand whose essential parts are a block against which the camera can be mounted with the aid of a screw in the tripod socket. The function of the block is to provide a means of holding the camera rigidly in position so that it cannot be turned accidentally out of alignment and so that it can be removed and replaced to occupy the same position. The other essential as shown in figure 3, is an alignment chart consisting of cross section ruling with numbered lines along the vertical and horizontal axes.

The camera is loaded with a few feet of positive film and a shot of the alignment chart is made. The film is developed in a tray like an ordinary still print, then fixed and dried. By careful inspection of the trial film and reference to the numbers on the alignment chart, the limits of the field can be accurately marked on the chart. It is convenient to place two dowel pins at the top of the title board to serve as a means of registering the title cards. These dowel pins can be the same size and spacing of the common looseleaf binders. If the alignment chart has been held in place by these dowel pins, it can be removed from the board after the limits of the field have been found. The chart can then be placed over a sheet of black cardboard and an opening can be cut through the two sheets, following the marked outline of the picture field. The punched

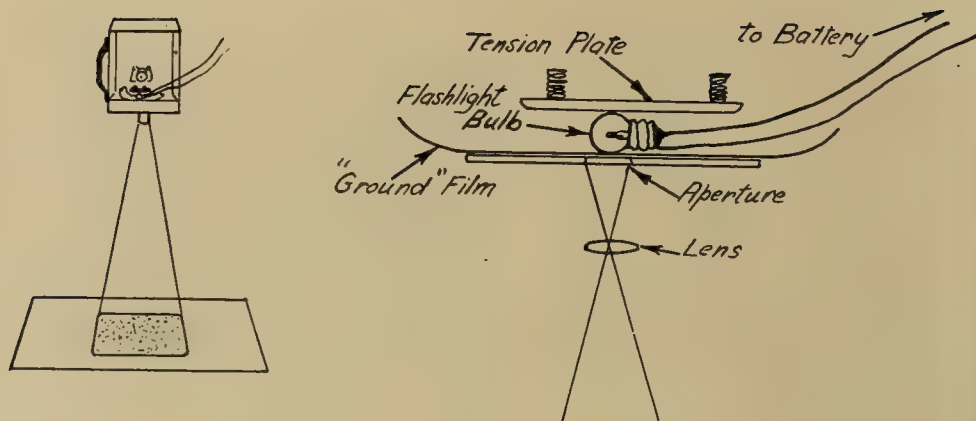


Figure 4

holes for the dowel pins must also be transferred to the black card. This card becomes an accurate mask, behind which the title card can be slipped and very quickly centered by eye. Needless to say, this trial method is just as useful in determining the exact field of the camera lens on any of the regularly manufactured titlers.

A second method of accurately determining the camera field at very close distances, and at the same time indicating critical focus, is the "projection" system. This method is very convenient when the titling is done in a room which can be darkened. It involves setting up the camera when it is empty and the spring motor can be run down. The unwound camera mechanism is made to stop with the shutter open and a flashlight bulb, with wire connections soldered to it, is slipped in the film gate behind a piece of "ground" or frosted film leader.

In the darkened room the camera with the flashlight bulb in the aperture will act as an enlarger, projecting a clear image of the camera aperture on a title board. A sheet of white paper placed on the title board can be marked with the outline of the camera aperture and the lens can be accurately focussed visually by adjusting it until the grain of the frosted film appears sharply defined.

Having outlined the limits of the camera field on the title board, one may turn the lights on in the room, remove the flashlight bulb and frosted film from the aperture and thread the camera with film. The position and size of the marked outline of the camera field can be transferred to a black cardboard frame or mask as in the method previously described. Obviously too, some means of holding the camera rigidly in position while it is being wound, so that it will not be accidentally shifted, is very desirable.

Unfortunately, this second method of projecting the camera field is not applicable to all makes of cameras, but only those in which the aperture plate or front part of the film gate is fixed and the movable back part can be opened wide enough to admit the flashlight bulb. In some cameras the back tension plate can be slipped out entirely, giving more room for the flashlight bulb. The first method has no restrictions and can be used for any make of camera or any size film.



"Lonesome"

Toso Dabac

Zagreb, Jugoslavia

Advanced Medal Print

■ This print is a splendid example of how important the lighting is to any picture. Just imagine how uninteresting this same material would be under a flat frontal light. Notice also that the composition is actually made possible because of the lighting. This is based upon the two converging diagonals, one set up by the bear and the other by the lines of the masonry in the foreground. Without the back-lighting these foreground lines would lose a great deal of their strength. In that case there would be nothing to balance the fact that the bear points out of the picture to the right, and the composition would most surely be a failure. As things are, the strength of the foreground material pulls the eye around to the left and sets up an elliptical movement that succeeds in holding the eye within the picture space.

Data: 6x6 cm. Rolleiflex; 1/100 sec. at F:8, on Agfa Isopan in Champlin No. 7; bromide print developed in M. Q. with local printing.

Second Award

Advanced Class

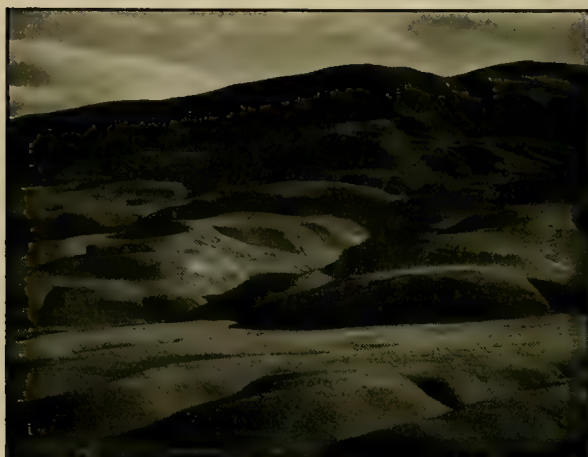


"Seeking Shelter"

G. C. Farnsworth
Denver, Colo.

■ Nicely lighted and nicely spaced, this picture is of interest chiefly because of the fine textures shown. Not only because of the textures themselves, but also because of the contrast between the soft delicacy of the butterfly's wings, and the shiny waxy quality of the leaf. We note that Mr. Farnsworth has carefully toned down the light patch in the background at the upper part of the print, but feel that this area should be reduced even farther in tone. It is not particularly noticeable at first but becomes more obtrusive as one studies the picture. We think just a little more light on the shadow side might help so that the outline of the leaf would not be entirely lost.

Data: 8 x 10" bromide print.



"Green Hills of California"

R. F. McGraw
Sierra Madre, Calif.

Third Award

Advanced Class

■ Here, surely, is subject matter which the great majority of photographers would pass by as wholly inadequate. Yet, Mr. McGraw has obtained an exceptionally interesting picture from it. How did he do this? Most of all, of course, by having the imagination and pictorial understanding to see the possibilities of the material, and to visualize it as a finished picture. But it is well for us to appreciate the great importance of the camera position in a picture such as this; particularly as regards the height of the camera. It is this factor which determines how much

height the hills will appear to have, and how much foreshortening there will be in the foreground. For example, if a lower camera position were adopted the foreground (which now plays such an important part in the picture) would be greatly diminished if not eliminated altogether. So we see that our first problem is to find a camera position that will permit of the desired relation between foreground and background. With material such as this that position is likely to be rather far back. We overcome that difficulty by resorting to a long focal length lens, as Mr. McGraw has done in this case.

Data: 4 x 5" Korona View; 16" Meyer Plasmat; 1/5th sec. at F:32, on E. K. S.S. Pan, in D-76; K-2 filter; 11 x 14" print on Defender Velour Black Glossy.

Fourth Award
Advanced Class

This picture speaks softly yet eloquently of the sleepy, sun-lit peacefulness of the small country town. The two cyclists provide well-placed, nicely-balanced points of accent. The eye moves easily into the picture from the lower left and travels in circular fashion to the nearer cyclist, then to the other figure and back along the left side of the picture. Obviously this movement may be repeated indefinitely, with the eye pausing here and there to enjoy the quaint bits of architectural detail. It is well to notice how firmly the eye is held within the picture space because of the darker tones which surround the sun-lit area, and all of the points of interest. This matter of darker tones around the edges and corners of a print is a time-tested device for stabilizing a composition that has seldom been known to fail.

Data: Contax; 5 cm. Sonnar F:1.5; 1/50th sec. at F:8, on E. K. Panatomic film; 11 x 14" print on Agfa Brovira Royal.



"Small Town Traffic"

Paul Wall
Chicago, Ill.

Fifth Award
Advanced Class

We feel quite certain that this picture has been carefully posed, simply because the pose is so well established, yet it has every appearance of perfectly natural action. It is true that when limited action such as this is the objective, it is easier to get it right by careful posing than by actually shooting the moving figure. Let your model practice by stepping into the pose and holding it briefly. Eliminate any awkwardness or bad lines by rehearsal, and shoot from time to time as the pose is gradually smoothed out. Mr. Mortensen, in his latest book, points out that textures are important in a picture because of the tactile sensations which they can arouse in an observer. We all enjoy feeling the wonderful smoothness of a beautiful piece of silk. We can experience that same sensation (mentally) while looking at this picture because of the fine rendition of texture in the skirt. A further effective tactile element is found in the head of the baton.

Data: 4 x 5" Graflex; 8 1/4" Kodak Anastigmat; E. K. Panchro Press film in DK-50; 11 x 14" print on Illustrators Special; illumination by photo flood lamps.



"Stepping High"

R. Owen Shrader
Pasadena, Calif.



"Happy Landing"

Atwood Kreider
Lititz, Pa

Amateur Medal Print

■ Butterflies seem to be lighting all over these pages this month. However since both pictures are very creditable efforts we are sure that no one will object to that. Mr. Farnsworth, in the Advanced Class, directed his principal effort toward a superlative rendering of textures. Mr. Kreider has done well in that respect but has been chiefly concerned with obtaining an attractive and graceful distribution of leaf forms, using the butterfly as a point of accent.

Neither contributor gives any indication as to whether the butterflies shown were alive and active or not when the pictures were taken. However it is probable that preserved specimens were used, since it is next to impossible to catch these fidgety fellows on the wing. They just won't pose for the camera.

Data: Exakta; Carl Zeiss F:3.5; 1/10th sec. at F:22, on S.S. Pan, in D-76; 11 A.M. in July; 8 x 10" print on Agfa Indiatone, in D-52. Prints may be obtained at the price of \$5.00 upon application to Camera Craft.

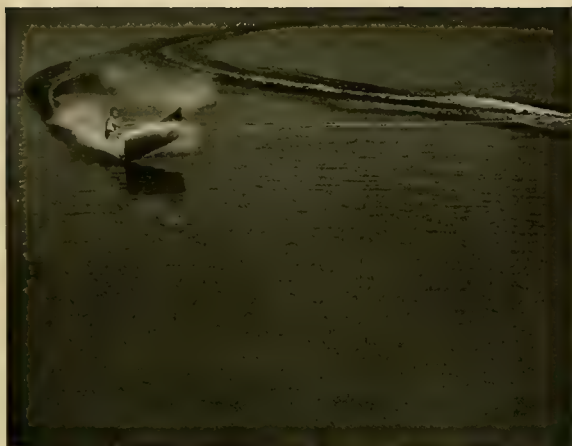
Second Award

Amateur Class

■ Since we have used up quite a stack of film shooting at such subject matter, we know that this particular bit of action is difficult to get just right. We went at it the hard way; working in close with the camera close to the water, in an attempt to get maximum detail in the spray; Mr. Blackman, more sensibly, perhaps, has been satisfied to stand back. This position permits him to take pictorial advantage of the curving wakes of boat and aquaplane, but fine rendition of detail is not possible because of the distance of the camera from the action. We feel

that this picture is well conceived but that there is an unnecessarily large amount of space at the base and to the right. We have exactly the same picture with plenty of space to balance and contain the action if we trim one-third of the width off the right and one-third the height off the base. Everything considered, we feel that that is about the best trim under the circumstances. However, if the details of the action were sharper, and if the image were larger on the negative, we would advocate even greater concentration. In that case we think the picture would be contained in the upper left quarter of the present print.

Data: 6 x 6 cm. Rolleiflex; 1/300th sec. at F:3.8, on E. K. Panatomic in D-76; 11 x 14" print on Defender Velour Black C, medium.



"Aqua-planing"

Glen Blackman
Riverside, Calif.

Third Award

Amateur Class

■ Mr. Desme has been quite successful in capturing the still, mist-laden quality of a foggy day. The composition is simple yet effective for the purpose. The principal problem involved was the balancing of the mass of the buildings on the right against the mass of boat and wharf on the left. The darker tones of the mass on the left make this mass the more emphatic, and consequently it takes a larger area of medium tone to balance it. Incidentally, the reader should appreciate the importance of having some good solid dark tones in the foreground of a picture such as this. Notice that if these dark tones were removed the sense of aerial perspective is greatly reduced and the picture becomes flat and uninteresting. Observe the suggestion of shore-line on the left of the print just above the wharf. The preservation of this faint tone is vital to the success of the picture. It turns the eye back into the picture and imparts a curve to the waterway that adds interest. If it were not there the eye would surely slide out of the picture at this point.

Data: 11 x 14" bromide print.



Robert Desme
Brooklyn, N. Y.



Charles T. Townsend
San Francisco, Calif.

help because we lose too much of the strong part of the wave by so doing. We feel that this material has such fine possibilities that it would be well worth while to make some additional shots, exposing a fraction of a second later when the wave has had time to fill in the lower left corner.

Data: $2\frac{1}{4} \times 2\frac{1}{4}$ " Primaflex; 4" lens; 1/500th second at F:5.6, with K-1 filter; 8 x 10" print on Agfa Brovira Velvet.

Fourth Award

Amateur Class

■ The play of light on this breaking wave is very beautiful indeed, and the picture is nicely composed with the lighthouse placed just right to act as a subsidiary point of interest. The rock over which the wave is breaking creates a patch of dark tone in the lower left corner that is rather disturbing. Ordinarily, some dark tone in the foreground is highly desirable. In this case, perhaps the trouble is that there is too little of it. So little that it does not readily explain itself, but enough to be disturbing, since it is the only strong dark accent in the print. Trimming does not



"Slag and Steel"

Henry M. Mayer
Lakewood, Ohio

Fifth Award

Amateur Class

■ This is interesting subject matter and we think that Mr. Mayer has handled it rather nicely. Perhaps it would have helped if the camera had been placed a bit further to the left in order to make the curve of the train more pronounced. There is a rather peculiar static quality about this picture. By that we mean that in spite of the smoke pouring from the funnel of the engine the train does not really appear to be moving. We think that this situation is brought about partly by the rather even spacing at top and bottom but mostly by the fact that the eye moves upward in the picture space. It starts with the engine and then is pulled upward by the series of bright highlights in the dump cars. There is nothing really wrong about all this except that it leaves some elements of doubt in the spectator's mind. It is generally best to avoid that if possible.

Data: 4 x 5" Graflex; 1/90th sec. at F:8 on S. S. Pan; 11 x 14" print on Agfa Brovira Royal, in D-72.

Monthly Competitions

Apologies To Mr. Monsen

This morning we received a letter from Mr. Ima P. Nut of Los Angeles, who after speculating at great length as to the "how and why" of Mr. Monsen's first prize picture in our January issue, concludes: "At least it is a swell print and he deserves the medal even if it does look better up side down." We hasten to assure Mr. P. Nut and others who have been justly annoyed and confused that it was our cut which was up side down, not Mr. Monsen's fine picture.

For Mr. Nut's benefit we record the fact that this is written on a nice pink second sheet which exactly matches our complexion at the moment.

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: G. C. Farnsworth, for the Denver Lensmen; Paul Wall, for the Fort Dearborn Camera Club; Toso Dabac, for the Fotoklub Zagreb; and R. F. McGraw and R. Owen Shrader, for The Pack Rats.

The following won prizes for their clubs in the Amateur Class: Henry M. Mayer, for the Cleveland Photographic Society; Atwood Kreider, for the Lancaster Camera Club; and Glen Backman, for the Riverside Pictorialists.

The following prize winners have no club affiliations: Robert Desme and Charles T. Townsend.

Contributing Clubs

Arizona Pictorialists (Prescott, Ariz.)	Monterey Peninsula Camera Club (Pacific Grove, Calif.)
Berkeley Camera Club (Calif.)	Nassau County Camera Club (Mineola, N. Y.)
Camera Club of Richmond (Va.)	Norfolk Photographic Club (Va.)
Cleveland Photographic Society Miniature Group (Ohio)	The Pack Rats (Pasadena, Calif.)
Denver Lensmen (Colo.)	Photographic Society of San Francisco
E.P.I.C. Pool of San Francisco	Pictorial Photographers of America
Florida Camera Club (Tampa, Fla.)	Queen City Pictorialists (Cincinnati, Ohio)
Fort Dearborn Camera Club	Regina Camera Club (Regina, Canada)
Fotoklub Ljubljana (Yugoslavia)	Riverside Pictorialists (Calif.)
Fotoklub Zagreb (Yugoslavia)	Sierra Camera Club (Sacramento, Calif.)
Fresno Camera Club (Calif.)	Telephone Camera Club of Manhattan
Guild Camera Club (Cleveland, Ohio)	Toronto Camera Club (Canada)
Lancaster Camera Club (Pa.)	
Lens and Shutter Club (Chicago)	

STANDING OF CLUBS

Large Clubs Advanced Class

Fotoklub Ljubljana	6
Fort Dearborn Camera Club.....	5
Fotoklub Zagreb	5
Miniature Camera Club of New York.....	1

Small Clubs Advanced Class

The Pack Rats.....	9
Denver Lensmen	4

Large Clubs Amateur Class

Camera Club of Richmond.....	5
Cleveland Photographic Society.....	1

Small Clubs Amateur Class

Lancaster Camera Club.....	5
Riverside Pictorialists	4
Taft Camera Club.....	4
Norfolk Photographic Club.....	1

SUMMARY OF COMPETITION RULES

1. Open to all, amateur or professional, club member or non-club member.
2. Closing date 1st of each month.
3. Place technical data, club membership if any, selling price, and whether or not you wish to exchange on back of print.
4. No entry fees or blanks required.
5. Stamps must be enclosed for return of prints.
6. Full explanation will be sent free on request or may be seen on Page 42 of January 1938 issue.

Club Notes

Forthcoming Exhibitions

Runcorn Camera Club open exhibition. Address R. J. Edwards, 1 Waterloo Road, Runcorn, Cheshire, England. Closing date February 18, 1938. March 23 to 26, 1938.

Fifth National Intercollegiate Salon of Pictorial Photography, sponsored by the University of Wisconsin Camera Club. Address Ralph Turner, University of Wisconsin Camera Club, Memorial Union, Madison, Wisc. Closing date February 19, 1938. Entry fee \$1.00, limit 4 prints. Open to students and faculty members. March 14 to April 8, 1938.

Third Annual Salon of Pictorial Photography. Address Salon Committee, St. Petersburg Camera Club, c/o R. Kendall Williams Studios, 43 Fourth Street, South, St. Petersburg, Florida. Closing date February 19, 1938. Entry fee \$1.00, limit 4 prints. March 7 to 21, 1938.

Rocky Mountain National Salon of Photography. Address Russell F. Heckman, Secretary, Denver Photographic Society, 1429 Marion Street, Denver, Colorado. Closing date March 1, 1938. Entry fee \$1.00, limit 4 prints. April 1 to 15, 1938.

30th Scottish National Salon. Address Hon. Salon Secretary, Percy H. Cartwright, 52 High Street, Galashiels, Scotland. Closing date March 9, 1938. Entry fee 5 shillings for six prints or less. April 2 to 16, 1938.

XVIIe Salon International de Photographie de Belgique. Address M. Ernest Hofman, rue Brogniez, 154, Brussels, Belgium. Closing date April 1, 1938. Entry fee 7 belgas, limit 4 prints. May to October, 1938.

International Salon of Photography and Congress in Vienna. Address Verband Oesterreichischer Amateurphotographenvereine, Wien, XVIII, Ferrogasse 34, Austria. June 1938.

Australian Commemorative Salon of Photography, Sidney. Address Hon. Exhibition Secretary, H. V. Leckie, 30 Pitt Street, Sydney, Australia. Closing date February 25, 1938. Entry fee 5 shillings, limit 4 prints. April 1938.

The 76th Annual Open Exhibition of Edinburgh. Address Hon. Exhibition Secretary, 16 Royal Terrace, Edinburgh, Scotland. Closing date February 28, 1938. Entry fee 2s. 6d. Limit 5 prints. March 19 to April 2, 1938.

Derby Railway Institute Photographic Society Exhibition. Address J. Radford, Central Order Office, C. M. E. Dept., Railway Institute, Derby, England. April 23 to 30, 1938.

33rd Annual Exhibition of the City of London and Cripplegate Society. Address R. C. Dye, Hon. Exhibition Secretary, The Cripplegate Institute, Golden Lane, London E. C. 1, England. Closing date February 7, 1938. March 7 to 12, 1938.

Fifth Annual Canadian Salon of Photography. Address T. S. Glover, The Hamilton Camera Club, Art Gallery, 22 Main St., West, Hamilton, Ontario, Canada. Open to residents of Canada only. Limit 6 prints. Entry fee \$1.00. March 21st to April 4, 1938.

Twenty-Fifth Annual International Salon of Pictorial Photography. Address C. E. Leshner, Secretary, Pittsburgh Salon, Box 146, Pittsburgh, Pa. Closing date February 26, 1938. Entry fee \$1.00 for 4 prints. March 25 to April 24, 1938.

Third Annual San Antonio National Salon of Photography. Address Pictorial Camera Club, 204 Frost Bldg., San Antonio, Texas. Closing date March 5, 1938. Entry fee \$1.00 for 4 prints. March 20 to April 3, 1938.

IXe International Salon of Photographic Art, Brussels, 1938. Address M. M. Devaivre, 4 rue des Tongres, Brussels, Belgium. Closing date March 20, 1938. Entry fee 7 Belgas. Limit 6 prints. April 23 to May 8, 1938.

Fourth Annual Blossom Festival Salon of Photography. Address Salon Secretary W. H. Mitchell, 614 Broad St., St. Joseph, Mo. Closing date April 14, 1938. Entry fee \$1.00. Limit 4 prints. May 1 to 8, 1938.

Second Annual Fox River Valley Photographic Salon. Address Roy E. Scheils, Chairman, 305 S. Quincy St., Green Bay, Wisconsin. Closing date May 5, 1938. Entry fee \$1.00. Limit 4 prints. United States only. May 12 to 26, 1938.

1938 Baltimore International Salon. Address Salon Secretary, 2315 Homewood Ave., Baltimore, Maryland. Closing date May 10, 1938. June 10 to 30, 1938.

Miniature Camera Club of New York

The Miniature Camera Club of New York is featuring 50 prints from the cameras of Carl Mydans and Rex Hardy, Jr., crack staff photographers for "Life",

who demonstrate what can be done with "picture essays" or groups of sequence shots of fast moving events. The Club reports that the show is breaking attendance records at their Mezzanine Gallery

Dayton Power and Light Camera Club

The Dayton Power and Light Camera Club held its annual election in December and the following officers were elected for 1938: Mr. D. M. Cotterill, President; Mr. Gale Law, Vice-President; Mr. R. C. Abbott, Secretary, and Miss Marguerite Somers, Treasurer.

The members are well pleased with the progress of the Club school in photography, instructed by Mr. D. E. Ahlers, well known pictorialist and commercial photographer.

All correspondence should be addressed to Mr. R. C. Abbott, Secretary, The Dayton Power and Light Camera Club, Dayton, Ohio.

The Light and Shadow Club

Photographic enthusiasts of San Jose, California recently organized a new group to be known as the Light and Shadow Club. Meetings will be held the first Monday of each month and the group plans an extensive series of Sunday Field Trips to points of interest and scenic beauty.

Officers elected for the coming term are Dr. Roland G. Breuer, President; Arthur Lundy, Vice-President; Miss Edythe Stout, Secretary-Treasurer.

Communications should be sent to Miss Stout, 127 Viola Ave., San Jose, California.

Pictures For Scribner's

The publishers of "Scribner's Magazine" announce a new photographic department, "Life in the U. S. . . . Photographic". The department consists of eight beautifully printed photographs of real merit, each one occupying a full page, size 9 x 12 inches. The outstanding prints of the January issue are Willard Van Dyke's "Victorian House" and George Platt Lynes' picture of "Ruth Elizabeth Ford".

Scribner's wants this section to reflect the American scene but they are making no other regulations as to subject matter and are drawing no distinction between amateur and professional. Any picture taken in America that has neither been published nor exhibited will be eligible. Each picture selected will appear on a page by itself, reproduced in half-tone on a coated stock, and a nominal fee of ten dollars will be paid to the photographer to compensate him for the materials used. Scribner's wants "Life in the U. S. . . .

Photographic" to be a monthly exhibition of fine photographs, an exhibition that will be a credit to the publishers as well as to the photographers represented.

This is a very creditable project and one that deserves the support of every photographer. Send your entries to Scribner's Magazine, 597 Fifth Ave., New York, N.Y.

Santa Monica Camera Club

The Santa Monica Camera Club held its first annual meeting on January 5th, 1938. The following officers were elected: Lee W. Hagan, President; Miss Florence Wright, Vice-President; Miss Pamela Byatt, Secretary; and Ted Olsen, Treasurer.

At the annual dinner the President formally announced that the Club had elected Mr. Fred W. Carter as its first Honorary Life Member, an expression of appreciation of the splendid way in which he has helped and advised the Club during the past year.

Regular meetings are held on the first and third Wednesdays of each month at the Santa Monica Bay Women's Club at 7:30 p. m. A cordial invitation is extended to those interested in photography to attend any of the regular meetings.

"Photolore" Again

We note with pleasure an announcement in the Washington Leica Club Special News Bulletin, that the Club's justly famous "Photolore" will begin regular publication again within a short time. Mr. Harriss will once more occupy the Editor's chair. Well remembered are "Photolore's" pungently entertaining remarks and we greet its return with our very best wishes.

The Miniature Camera Club of Maryland

The Miniature Camera Club of Maryland is now beginning its fourth successful year of photographic endeavor under the leadership of Laurent J. LaBrie. The members inaugurate a new system of award for 1938 with the presentation of cash prizes semi-annually to the members amassing the greatest number of points of merit. Any camera enthusiast using a 3¼ x 4¼ or smaller camera is welcome at the Club's meetings held on the first and third Thursdays of each month. Those wishing to communicate with the Club

should address M. I. Zimmerman, Corresponding Secretary, Miniature Camera Club of Maryland, Hotel Rennert, Baltimore, Md.

Kent State University Competition

The Department of Journalism at the Kent State University, Kent, Ohio, announces competitions in Pictorial and News Photography. All photographers are invited to enter either competition and the closing date is February 5th. Cash awards will be made in both competitions. Entry blanks may be had on request from Prof. A. Clarence Smith at the address above.

De La Vergne Selected to Judge San Antonio Salon

Mr. A. B. De La Vergne, famous pictorial photographer, has been selected by the San Antonio Pictorial Camera Club of San Antonio, Texas, as judge of their 3rd Annual Salon. The Salon will be on view at the Witte Museum, from March 20th to April 3rd, 1938.

Leroy Roselieve Speaks Before Miniature Camera Club of Philadelphia

At their January 6th meeting, the members of the Miniature Camera Club of Philadelphia were privileged to hear Mr. Leroy Roselieve, of Fink-Roselieve, Inc., who spoke on "Developers and Developer Characteristics". Mr. Roselieve also demonstrated a new single-solution toner which gives a large variety of tones, from violet and blue through bronze, brown and sepia to copper-red. Action may be stopped at any desired color by removing the print and washing in clear water. The toner is not yet available commercially.

The next meeting will be held January 20th, at 8:00 p. m., at the Benjamin Franklin Hotel and the members will be addressed by the famous Dr. Sease, whose fine grain formulas are world renown. Visitors will be welcome at the meeting.

Prints For Modern Photography 1938-9

All photographers are invited to submit photographs for the 1938-9 edition of "Modern Photography", famous international annual of photographic art. Unmounted prints are preferred and all will be returned after use. The editors are interested also in receiving color work, and all material should be mailed to arrive

at the office of The Studio Publications, Inc., 381 Fourth Ave., New York City, not later than March 1.

Chicago Camera Club

The Sixth Annual Spring Term of the School of Photography for Beginners, conducted by the Chicago Camera Club, will be held every Tuesday evening from March 29 to May 31st inclusive.

Applications for enrollment are now being received. Persons interested are urged to make inquiry at an early date, addressing the Chicago Camera Club, 137 North Wabash Avenue, Chicago, Ill.

New Camera Club in Lawrence, Mass.

A new camera club has been organized in Lawrence, Mass., and membership is now open to all interested photographers. Meetings are held at the Lawrence Y. M. C. A. building, the first Tuesday of each month at 7:30 p. m., and the Third Sunday of each month at 2:00 p. m.

Officers elected for the first term were Donald Lever, President; Howard P. Lucien, Treasurer; and Charles G. Bolovas, Secretary, 33 Robinson Court, Lawrence, Mass. The Club is anxious to communicate with other groups and letters should be addressed to Mr. Bolovas at the above address.

Pacific Pictorialists Hold Picture Hunt

The Pacific Pictorialists of San Francisco, held a picture hunt on December 28th, under conditions that would test the most agile newsman. Assignments were drawn at 8:00 p. m. and a mounted print had to be entered that same night before 11:30. The club members must have moved rapidly to cover their assignments.

First prize was won by George Dingman and Jack Whittington. The members reported that in their search for pictures they were welcomed everywhere, except for the two hunters whose assault on the night court was repulsed by the law.

Cleveland Photographic Radio Program Broadcast at New Time

The radio program, The Camera Forum, sponsored by The Cleveland Photographic Society, and broadcast from station WHK, Cleveland, has been changed from Monday evenings to Tuesday evenings. The broadcast starts at 9:30 Eastern Standard Time.

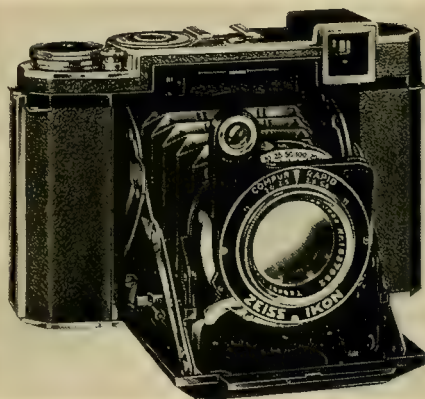
Notes and Comments

Western Movie Supply Co. Appointed Western Agents For Mimosa Products

Western Movie Supply Co., under the active and able management of Mr. Phil Lasher has, since early 1937, been selling a number of articles of the Mimosa American Corporation with such success that the latter felt compelled to now appoint Mr. Lasher's company as their exclusive sales representatives on the West Coast, for their entire line of photographic articles. As many readers may already know, that line includes such outstanding items as the Leudi exposure meter, the Perplex developing tank, Mico distance meter, Mico filters and filter holders, etc. The line also comprises a large selection of imported rollfilm cameras, embracing models with coupled range finder, and ranging in price from \$13.75 up. Another important article is the Primarflex camera, the high class mirror reflex camera with interchangeable lenses and focal plane shutter which, on account of its refinements and unique features, is steadily gaining in favor among discriminating photographers. Mimosa also has pan tilting tops, neckpods, focusing films, sunshades, negative viewers and laboratory sets, and new articles are steadily added to those already mentioned whenever quality and usefulness of the same warrant doing so. Adequate stock will be carried so that the trade may be assured of prompt service. Interested parties are invited to ask for literature. Western Movie Supply Co., 254 Sutter St., San Francisco, Calif., will be glad to give all necessary information on Mimosa Products.

Zeiss Ikon Super Ikonta B Is Improved

Zeiss Ikon announces an outstanding improvement in their Super Ikonta B camera, namely: both the range-finder and the view-finder have now been combined in a single large opening, a feature hitherto available only in the Contax. Accurate finding and focusing thus becomes a single easy operation.



New Super Ikonta B

The accurate super-imposed image type of range-finder is not an attachment, but has been actually built into the camera body itself. It is directly coupled to the lens in such a way that when the image has been properly super-imposed in the range-finder, the focus is at its sharpest, even though the lens is being used at its full aperture. The optical view finder has, at the same time, been enlarged.

These features make the Super Ikonta B particularly simple and convenient for everyday use, and also fit it especially for fast, accurate work.

This model is one of the larger miniatures, taking eleven $2\frac{1}{4} \times 2\frac{1}{4}$ pictures on standard $2\frac{1}{4} \times 3\frac{1}{4}$ roll film. It is fitted with a Zeiss F:2.8 Tessar lens, in a Compur Rapid shutter, having a top speed of $1/400$ second, as well as the built-in self-timing device. It also has an exposure counter, a device for preventing accidental double exposures, and the convenient two-point setting for use as a fixed focus camera. The Super Ikonta B is handsomely finished in chromium plating and is of the highest order of precision roll film instrument.

The New Model "A" Omega Enlarger

A new enlarger—the Model "A" Omega—made expressly for 35 mm. film users, has just been announced by Simmon Brothers, 29-46 Northern Blvd., Long Island

City, N. Y. This popularly priced, high quality instrument introduces a new version of the famous Simmon Dust-Proof negative holder that helps to make the Model B Omega first choice among miniature rollfilm users.

In this new enlarger the negative holder is designed for maximum convenience in handling strips of 35 mm. film. No lint-collecting glass or metal touches the picture area of negatives at any time, either when making enlargements or when changing frames on film strips. The film can be easily inserted into its track without removing negative holder and then moved from frame to frame without raising lamp-house.

Model "A" Omega makes enlargements up to 16 times linear on the baseboard and, of course, larger on floor. The light-tight cast aluminum lamphouse contains a cool running low-voltage special projection bulb (6-8 volts), which in conjunction with the efficient double condenser illuminating system, permits short exposures on slower enlarging papers. In addition, Model A has a long focusing lever and smooth operating mechanism, is rigidly constructed, practically vibrationless, and the enlarger head is fully counterbalanced.

The Model "A" Omega is available with detachable lens board, factory installed 2" anastigmats, or with moderately priced adapters for Leica and Contax lenses.

Mogull Bros. Rental Catalogs

Mogull Bros., announce that their new sound on film 16mm. rental catalog and 8mm. rental catalog are now ready for distribution. They offer a wide list of subject matter of varying footage.

Catalogs will be sent free upon request to Mogull Bros., 1944 Boston Road, New York, N. Y.

Photographic Instruction by Theodor Stolar

Theodor Stolar, prominent European artist photographer, offers complete photographic instruction, including portrait, commercial, illustrative, news photography, etc. The school offers day or night classes and also individual instruction. For complete details write for Booklet G to Theodor Stolar, 1284 Sixth Ave., New York City.

D. C. Mowat to Manage Sacramento Store

Sherman, Clay & Co., of Sacramento, California, opened their new photographic department on January 3rd. D. C. Mowat, formerly with Smith Bros., of Oakland, California, has been placed in charge and offers Sacramentans the benefit of his long experience in photography. With the opening of their new department, Sherman, Clay & Co., 914 K St., Sacramento, Calif., are offering complete photographic service.

S & S Newton Ring Eliminator

Spindler & Sauppe, Inc., of San Francisco present the S & S "Newton Ring" Eliminator. In principle the S & S Eliminator is the same as the one described in the Leica Manual with the additional refinement of two slots that permit the frame numbers of the film to be seen. The Eliminator is durably constructed of Fabrikoid and is designed especially for the Leica Enlarger, Valoy and Focomat No. 1.

The S & S "Newton Ring" Eliminator is priced at 30 cents and may be obtained from your dealer or Spindler & Sauppe, Inc., 86 Third St., San Francisco, Calif.

New Britelite-Truvison Reflector

A newly designed reflector, reputed to be the most efficient for its size, has been introduced by the Motion Picture Screen and Accessories Co., Inc., New York. The new Britelite-Truvison reflector is constructed according to specifications of the recognized lighting authorities.

The reflector's parabolic construction is such that it will evenly distribute the greatest amount of light within a sixty degree area. The light rays of the bulb are condensed in the mirror-like center of the reflector and in turn, deflected to the satin finished portion of the reflector emanating a soft even light on the subject. The diameter of the reflector is 11 inches and the depth is 5 inches. The bulb sets well within the reflecting area. An outstanding mechanical feature of the new reflector is an adjustable slide, enabling the reflector to accommodate the following bulbs: T20/500 watt, No. 1 or No. 2 photo-floods. With this adjustment the filament of the bulb is always centered, assuring 100 per cent efficiency at all times. An "on and off" switch of sufficient amperage to carry the current, is attached to eight

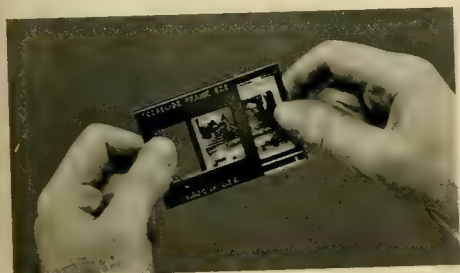
feet of "Underwriters-Approved" rubber cable.

For complete illustrated booklet write to Motion Picture Screen and Accessories Co., Inc., 521 West 26 Street, New York City.

Eastman Kodak Company Announces Projection Aids Available For Color-Film Users

Rapid extension of the use of natural-color film among the growing army of small-camera users is bringing new demands on camera manufacturers for devices which will enable amateurs to project their color transparencies with a maximum of convenience and effect.

To assist in projection, the Eastman Kodak Company has developed two devices for use with its Kodalide Projector. One is the Kodalide Metal Frame for mounting individual transparencies; the other, the Kodalide Sequence File, gravity-fed and accommodating forty-eight 2x2 inch slides in projection order.



Kodalide Metal Frame

The Kodalide Metal Frame consists of a double mask, two polished glass plates and an interlocking metal frame made in two parts. Masks are available in proper sizes for Kodachrome transparencies from the Kodak Retina, Kodak Bantam Special and other miniature cameras. A transparency is inserted between the leaves of the mask and this assembly placed between the two glass plates. The plates are centered on one of the metal frame halves and the other half of the frame slid into position.

A mounting of this sort protects the transparency from dust and fingermarks and prevents film cockling. Since the slide glass is of standard thickness, refocusing of the projector for each transparency is



Kodalide Sequence File

obviated. Moreover, the frame can be reopened if it is desired to substitute another transparency.

The Kodalide Sequence File is a wooden case, supplied in natural finish, with an ingenious hinged back which folds open at right angles to the base. It may be firmly held in this position by a glove-type snap-button. With the 45 degree tilt thus provided, slides feed down automatically. The inside of the case is grooved for three metal septums, supplied with it, which are convenient for separating slides into subject groups.

Kodalide Metal Frames packed in boxes of twelve, retail at \$2.25 a dozen. The Kodalide Sequence File retails at \$2.00.

General Electric Photo Studio Timer

To fill the expressed need for a simple and accurate timer, the General Electric appliance and merchandise department, Bridgeport, Conn., has announced a new electric timer. The device will find use in photo studios, where accuracy is desired and simple operation is mandatory. To set the timer, the alarm knob is turned until a red pointer indicates the desired interval. Any operation up to three and one-half hours may be timed. It is available in either black or ivory plastic case.

Announcing Price Reduction On Perplex Tank

While the line of Developing Tanks distributed by the Mimosa American Corporation and which include the Perplex,

Junoplex, Super-Junoplex, Simplex and Superkino is well and favorably known, the most logically popular of this series has been the Perplex—due to its unique and unusual accommodation to varying film sizes. A developing tank that will take 127, 117, 120, 116, 828 and 35mm. (24 exposure) film with the ease and simplicity of the Perplex deserves the success it has achieved. When one adds to this unusual versatility the factor of Bakelite construction which renders the tank absolutely impervious to the effects of photographic chemicals, its staunch construction and simple manipulation, one can, then, understand its popularity.

Mass production facilities became indispensable due to the daily increasing demand for the Perplex. This in turn so decreased manufacturing costs, that the makers found it possible to sell the identical tank at a really startling reduction in price. The distributors, therefore, announce that the Perplex will henceforth sell at \$5.85. For further information, we suggest that you write the Mimosa American Corporation of 485 Fifth Avenue, New York.

Pacific Cine Films Introductory Offer

Pacific Cine Films, 1454 N. Gardner, Hollywood, Calif., are making a special introductory offer for amateur movie makers. For a twenty-five cent handling charge they are offering three artistic end titles for either 8mm. or 16mm. (state your size when writing), a sample copy of Home Movie Magazine, and a complete list of cartoons, travelogues, etc., they have available for 8mm. and 16mm. projectors. Address Dept. CC2, at the above address for this special offer.

F-R Adjustable Roll Film Tank

The Fink-Roselieve Co., announce their F-R Adjustable Roll Film Developing Tank that may be adjusted to fit roll films from a 36 exposure roll of 35mm. film to No. 116. A single tank to do all your roll film developing. The F-R Tank is sturdily constructed for long use and sells for \$5.95. For further details write the Fink-Roselieve Co., Inc., 117 West 6th Street, New York, N. Y.

The Federal Photo Enlarger

The Federal Photo Enlarger which incorporates the features of expensive equipment is sold at the amazingly low price of \$9.95, (\$10.75 west of the Mississippi).

The Federal Enlarger, Model 505, which sells at this price complete, includes an F.8 Achromatic Lens, baseboard, switch, cord, etc. It is precision built throughout and fully guaranteed by the manufacturer, Federal Stamping & Engineering Corp. It takes negatives from 35mm. to 1½ x 2½ inches.

See the Federal at your dealer's or write the Federal Stamping & Engineering Corp., 30 Lafayette St., Chicago, Ill., for further details.

Home-Study Course in Retouching

The Jesselyn Studio of Retouching, 3639 10th St., Riverside, Calif., announces a home-study course in retouching designed to prepare the student for professional studio work. The Jesselyn Studio has devised a new easy method of instruction and further details regarding the course may be had from the above address.

Robot Camera Awarded Grand Prix at Paris Exhibition

Dr. Berthold C. Behrendt, president of the Inter-continental Marketing Corporation, announces that the Robot "Sequence Shot" Camera has just been awarded the highest distinction at the Paris International 1937 Exhibition, the Grand Prix. This unusual honor will no doubt be greeted with enthusiasm by Robot dealers and fans throughout the entire world. According to Dr. Behrendt, ever increasing numbers of professionals and amateurs are using this camera in their photographic work, and the awarding of the Grand Prix should stir their efforts in bettering their previous achievements.

James E. McGhee Appointed Eastman Kodak Co. Sales Manager

James E. McGhee was recently appointed general sales manager of the Eastman Kodak Company, filling a position vacant since three years ago, when Herman C. Sievers, formerly general sales manager, was elected vice-president in charge of sales and advertising and Mr. McGhee became assistant general sales manager, in active charge of the general sales department.

The new sales manager joined the Kodak Company in the summer of 1920 and served for six and a half years as a demonstrator in the medical division, maintaining contact with users of x-ray film. He was transferred in 1927 to the company's Chicago branch as assistant branch manager.

He entered the sales department at the Kodak Office, Rochester, in 1931. In September, 1932, he was appointed as assistant to Mr. Sievers. He remained in that position until his appointment as assistant general sales manager at the beginning of 1935.

Mr. McGhee graduated from the University of Rochester in 1920, having begun his course before the war at Wesleyan University. He entered the army in April, 1917, and was commissioned a second lieutenant of infantry. During service overseas with the 81st Division he was promoted to a first lieutenantcy.

Mr. McGhee is married and has four children.

Free Booklet on Developing

Burroughs Wellcome & Co., are distributing a booklet entitled "Modern Photographic Development" which describes developing technique as it applies to their Tabloid developers and other products. The booklet is also a fine source of special information which will be sent to those interested upon request.

Write Burroughs Wellcome & Co., 9 and 11 East 41st St., New York, N. Y., for your free copy of "Modern Photographic Development".

Free Exposure Meter Offered With New Book

The Carlyllian Co., are offering a Sol-O-Meter Exposure Meter free with each purchase of their new book "Questions and Answers in Photography", price \$1.00.

The book of 111 pages, 5½ x 8¼ inches, contains the answers to 300 questions of prime importance in photography. Questions are listed alphabetically, by subjects, for easy reference and the book also contains a complete cross reference index. A very handy volume full of practical easily understood information.

Order at once, as this offer is for a short time only. "Questions and Answers in Photography", with the free Sol-O-

Meter, for \$1.00, from Carlyllian Co., 10 E. Huron St., Chicago, Ill.

New Booklet on Developing and Printing Published by Agfa Ansco

A profusely illustrated, sixty-page booklet, "Developing and Printing Made Easy", has just been published by Agfa Ansco Corporation of Binghamton, New York. Covering all phases of developing and printing, this new Agfa booklet has been designed to serve both as an instruction manual for the beginner and a reference for the advanced amateur. Included with the discussion and developing, contact printing and enlarging are such topics as contrast, temperature control, reduction and intensification, washing and drying, selection of paper and projection control. Also given in the booklet are lists of necessary equipment for home finishing, tables of causes and remedies of finishing troubles and recommended formulas for developers and other processing solutions. The new booklet, a companion in size and style to Agfa's "Better Photography Made Easy", lists at 25 cents and may be obtained from your photographic dealer or by writing Agfa Ansco Corporation, Binghamton, New York.

Novel Idea for Local Newsreels

Herman A. Devry, Inc., of Chicago, have just recently announced a local newsreel plan in which a tie-up is created between newspapers and local theatres.

While the Devry local newsreel plan is not intended in any way to compete with the features or shorts of the screen, it is offered as an excellent substitute for free gifts and bank night promotions, etc.

The plan has already been tried in several communities and has been found especially successful in towns having smaller populations where there is a strong local interest in affairs. It is being successfully tried in many cities at the present time.

The local newspaper cameramen or any other interested amateur cameramen take shots which are edited and paid for by the theatre to form a splendid tie-up, and one which is beneficial both to the newspaper and to the theatre.

Amateur cameramen are invited to write to the Devry Company for further particulars.

Our Book Shelves

Brilliance-Gradation-Sharpness, With the Miniature Camera, by Harry Champlin.
Published by Camera Craft Publishing Co., of San Francisco. 160 pages, $5\frac{1}{4} \times 7\frac{3}{4}$ ", cloth bound, price \$2.00.

This is not a text book in the ordinary sense of that term for it does not attempt to cover every detail of miniature technique. Instead it concentrates on those aspects of technique in which the majority of Minicams are weak. It goes directly to the heart of almost every Minicams problems by dealing exhaustively with these weak points. It concentrates particularly on those **refinements** of technique which make all the difference between an ordinary and a superlative print.

The organization of the material seems distinctly practical and helpful to this writer, because all the information given is related directly to the ultimate aim and ambition of every Minicam; obtaining the maximum of brilliance, gradation and sharpness in the finished picture.

The book begins by showing in almost outline form all the factors of technique which contribute to obtaining a maximum of brilliance, gradation and sharpness, and points out the essential relationships which must be understood. Subsequent chapters take up these matters in detail. There are chapters on The Importance of Lighting, Exposure, The Exposure Meter in Use; a particularly fine chapter on Filters; chapters on Lenses and Developing; the chapter on Speed contains a thorough discussion of all methods of hypersensitization; the chapter on Handling the Camera, deals principally with candid camera technique; the Chapter on Shutters and Shutter Speeds deals exhaustively with Action Photography; much very useful information on Films is given, and the chapter on

Projection Printing constitutes a valuable little book in itself.

Harry Champlin is too well known to need any introduction here. His articles and his first book "Champlin on Fine Grain" have been accorded an unusually hearty welcome throughout the world.

His latest book should make him many new friends.

Perspective as you Please, by Dr. Alfred Grabner. Published by Die Galerie of Vienna. American Agents, E. Leitz, Inc., of New York. 24 pages, $6\frac{1}{4} \times 9\frac{1}{2}$ ", paper bound, price 60c.

This is truly a valuable and fascinating little book. The author is concerned with the problem which confronts the photographer who working with immovable objects has to compose them into a pleasing arrangements. A building cannot be moved a few feet or a telegraph pole uprooted for a minute but at the same time these objects manage to destroy an otherwise pleasing composition. Dr. Grabner believes that control methods attempted on the negative or print are effective in the hands of only a few skillful workers and therefore devised the methods presented in his book that allow the photographer to move his immovable objects. By means of self-explanatory illustrations, the author shows the various ways in which the photographer may arrive at his desired picture arrangement by the proper use of a lens of the correct focal length. In the words of the author, "By judicious selection of the focal length of the lens, the composition of the picture can be made to approach the ideal arrangement that the photographer had in mind."

This book is a real contribution to photography and the instruction is so clearly presented that its objects lessons accomplish the ends of hundreds of pages of text.

Miniature Photography From One Amateur To Another, by Richard L. Simon. Published by Simon & Schuster, of New York City. 168 pages, 33 illustrations, cloth bound, price \$1.75.

We can say without reservation that this book will be a boon to many a budding minicam for here are answers to his many questions, without quibbles or perhapses. Mr. Richard L. Simon, toiled through the beginners jungle of horrors himself and on emerging into the open decided to write a book that would clear a path for those to follow, not a path that twists and turns with maybe's, but one that leads straight to the goal of good pictures.

The author freely admits that there are many trails he has not followed but he knows the one he has traveled and his directions are clear and concise. Where many an "expert" has left a beginner bewildered with a wealth of possibilities, Mr. Simon, shows him simply the way he has found best.

As it is difficult for an adult to remember his childhood with accuracy, so it is for an experienced photographer to remember his beginning days and the fact that Mr. Simon has recalled his troubles, sensibly and accurately, makes this book required reading for the beginning minicam. His questions will find their answers here, stated clearly and briefly and his struggle toward good pictures will be materially aided.

Photography Of The Nude, by Marcel Natkin. Published by the Fountain Press, of London, England; American Agents, Camera Craft Publishing Co., San Francisco, Calif. 72 pages, 39 illustrations, cloth bound, price \$2.50.

During the past few years, photography of the nude has received its share, or perhaps we should say a lion's share of attention, and while much excellent work has been done in this medium, a good portion of the published pictures have been unbelievably bad. It may have been this situation that prompted Marcel Natkin to write his latest book for it is designed to give the photographer an understanding of this intricate aspect of photography.

The author divides his book into three sections; the first, dealing with the nude

in painting and sculpture; the second, with the various ways of treating the nude in photography; and the third, with technical considerations.

A feature of the book is the work of the world famous French photographers that illustrate it: Laure Albin Guillot, Pierre Boucher, Man Ray, and Roger Schall. Their photographs exemplify the different methods of treatment and their excellence is vouched for by the reputations of these artists.

Every photographer, who intends to venture into photography of the nude, should realize that he is entering a most difficult field of endeavor. An understanding of the fundamental principles discussed in Mr. Natkin's book are essential to success. The fundamental basis of any picture must be an understanding in the mind of the artist as to what he is trying to do and in photography of the nude this essential is multiplied many times by the difficulties inherent in the subject matter.

The Leica Manual 1938, by Willard D. Morgan & Henry M. Lester. Published by Morgan & Lester, of New York City. 600 pages, 450 illustrations, cloth bound, price \$4.00.

Due to the growing demand for this manual for minicams, the 1937 edition sold out before anticipated, causing a temporary shortage, until this new 1938 edition was ready for the market. Again the book has been revised, wherever necessary, to keep up-to-date with fast moving developments in photography and ten new chapters have been added.

A few of the new subjects covered are Dry Film Hypersensitization by Drs. Duerr and Dersch; Augustus Wolfman writes of the latest developments in the field of Stereo Projection in connection with the recent trends in color photography; an entirely new chapter on Natural Color Photography by Henry M. Lester; a section on Polascreeens; and completely revised Filter Factor Data.

200 new illustrations have been added along with many other features that space does not permit us to mention.

It's a big book packed with information and a Leica Library might easily be a fitting title.

Creative Camera Art, by Dr. Thorek, F. R. P. S., F. R. S. A. Published by the Fomo Publishing Co., of Canton, Ohio. 156 pages, size 8¼x11 inches, 78 illustrations, cloth binding, price \$3.75.

Probably no pictorialist is better known than Dr. Max Thorek, whose work has long graced the pages of photographic books and magazines and salon walls, and he now offers the benefits of his long experience to photographers in "Creative Camera Art".

Throughout the book are large reproductions of Dr. Thorek's best work and details are given regarding their conception and creation. Of particular interest is the section on the paper negative process in which medium the author does most of his work. Readers are also given the benefit of Dr. Thorek's experience in a wide range of subject matter, from equipment to preparing salon prints, including mounts and titles.

"Creative Camera Art" is beautifully bound and printed on fine coated stock and will be a real asset to any photographer's library.

You Have Seen Their Faces, by Erskine Caldwell and Margaret Bourke-White. Published by the Viking Press, of New York City. 224 pages, size 8½x11¾ inches, 80 illustrations, cloth bound, price \$5.00.

Remember the furore caused by Erskine Caldwell's play "Tobacco Road" and the cries of "not a word of truth", etc.? Well, here is the answer, powerful, convincing and compelling that cannot be shouted down. Why does this book prove what a play could only claim? Because an author and a photographer pooled their talents to prepare a document as convincing as a trip to the district itself. Erskine Caldwell, author, and Margaret Bourke-White, photographer, have created an unusual volume and a new field for photography.

The 80 illustrations by Miss Bourke-White offer a superb picture of the south's share-croppers and coupled with Mr. Caldwell's powerful writing they present a brilliant social document.

A few photographers have already pioneered in this field but it has been unjustifi-

fably neglected by most. "You Have Seen Their Faces" shows clearly the strength and effectiveness of this type of photography and a study of these pictures would surely rally many cameramen to this interesting kind of subject.

Rhythm & Repose, by Remie Lohse. Published by Alfred A. Knopf, Inc., of New York City. 76 full page illustrations, 9x12 inches, spiral binding, price \$3.00.

An unusual collection of photographs of the nude by one of America's leading photographers, whose work appears regularly in the nation's major publications. Many of the pictures are devoted to Mr. Lohse's experiments with the female figure in action and these photographs are especially effective due to their strong feeling of life and motion. The collection includes seventy-six single and double page studies with a cover in full color.

Mr. Lohse also includes technical notes and some details of the problems involved in his action studies.

Morning, Noon, Night, by Samuel Bernard Schaeffer. Published by Knight Publications, Inc., of New York City. 129 pages, 9½x12½ inches, 233 illustrations, spiral bound, boxed, price \$3.00.

Samuel Bernard Schaeffer, the author of "Pose Please," presents an unusual collection of photographs of the nude figure. The poses presented are of infinite variety and show male and female figures engaged in the daily routine of life.

The book is primarily designed for the artist, but photographers will find here much of value, for photographic data is presented on all the prints and no collection of photographs can fail to offer volumes of instruction to the camera artist. The solutions of posing problems and ideas for pictures abound in this book.

For the artist, this volume should prove a gold mine in time and money as well as an invaluable source book. The book includes 15 adaptions from the photographs made by well-known artists and shows clearly the practical value of the book.

As Mr. Leo S. Pavelle, who wrote the introduction, states, this book serves a double purpose: first, as a collection of photographs, and secondly, as a useful and instructive volume.

CAMERA CRAFT



"Sold Out"

John Pardee

21st Los Angeles International Salon

**h 1938
ACHROME EXPOSURE
TOGRAPHY IN JAPAN
ARNING TO JUDGES**

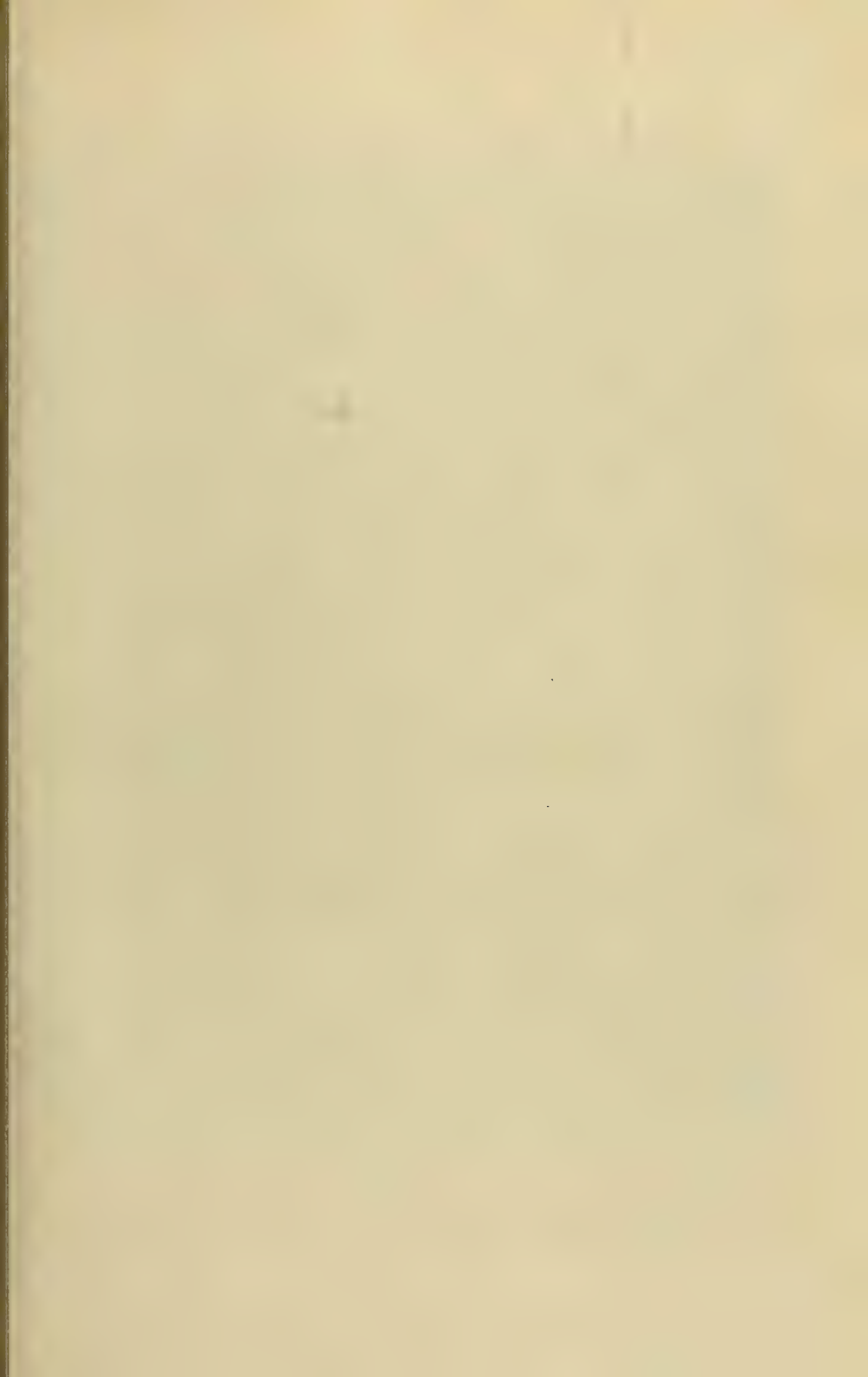
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MORTENSEN SCHOOL OF PHOTOGRAPHY

LAGUNA BEACH

CALIFORNIA





"Setting Sun"

Naniwa Shashin Club

Yasuyoshi Kuga

Photography In Japan

Nicholas Ház

DO NOT assume that this story deals with all *Japanese* photography, or even all of the photography to be found in Tokyo. Six weeks are barely enough to receive the first impressions of such a variety of endeavor as is to be found here, but if first impressions interest you, here they are.

All pictures in Tokyo's show-windows, magazines, advertising leaflets, or posters, exhibitions of amateurs, or of professionals impress at once with their excellent technique. The manual dexterity of the Japanese is proverbial, and it is certainly put to good use in their photography. One show, given to demonstrate the results obtained with a five-dollar miniature camera, (made in Japan) was amazing. Everything, possible with hundred dollar outfits was matched, including snapshots of huge indoor stages, with dozens of figures, in dim light—and in action. There were pictures which would put to shame many a minicam celebrity.

Even modest professionals of the suburbs showed fine taste, clean work and good sense. Work done by men who learned the trade before they opened the shop. No slapdash-slambangers, "coolie-today, master-photographer-tomorrow" in Japan. The public expects too much, and they know what they want, being artists, all of them, themselves.

At first this would seem improbable—a nation of artists—it must be an exaggeration. But when I realized what an educated Japanese must know, and even what a ricksha-puller *does* know, I changed my mind. Everyone needs to know at least 3000 Chinese ideograms, just to read the papers; and everyone reads the papers. To read all books one needs 7000 ideograms. They must be learned by heart, not only to read, but to write. "To write" means to paint them with a brush. One ideogram might consist of 18 distinct brushstrokes, which would have to be put down in correct sequence, with the right comparative size, position, shape, and be of good tone, sharp edge, perfect balance, faultless unity and emphasis. When well done the ideograms are clear and harmonious. Once you know the Chinese

writing, you are expected to learn two other alphabets of 50 characters each: the Katakana and the Hiragana. When you know that you must learn all the Latin alphabets, capitals, lower case, script, and Arabic numerals. If the Japanese is well educated he knows the German blackletter, the Russian and Greek alphabets, and might be discovered to read in some Near East language or perhaps a little Sanscrit. How they can keep out of the lunatic asylums is a mystery to me.

So it is obvious that after such a long fare of abstract pictures, the concrete work of the camera is a welcome holiday, a thrilling adventure to most of them. Consequently they all own cameras, and develop, print and enlarge themselves. There are many and large amateur and professional clubs throughout the islands and it is surprising to see how the technique and even the composition of a far Northern prefecture's club is on a par with that of the capital. Tokyo has many photographic exhibitions going on all the time. The largest manufacturer and importer maintains in his building at least 16 rooms in which the exhibitions change not only from week to week but from three days to three days. The two largest newspapers of the country are actively interested in photography, hold competitions continually, and one of them publishes a big photographic monthly, the "Asahi Camera," which has the largest circulation of any photographic magazine on earth. My book, "Emphasis in Pictures," published in January, was translated and printed in three condensed sequences, beginning in May, that year, and in July, Asahi has sponsored a three-lecture course by me, to a large audience of amateurs and professionals. Japanese are eager to learn and will gladly sacrifice comfort and money, when they are sure that they will get what they want.

Twice I had the pleasure of working with the Japan Photographic Society, once demonstrating, another time analyzing prints. Both nights were hot and humid, evenings on which American audiences would automatically adjourn into cool beerhalls or the beach. Not this society. If the fans had not been fluttering and waving, one might have assumed by the look of things, that it was a cool night. No one asleep, or even nodding, everyone keenly awake, snickering from time to time, but carefully refraining from expressing an opinion, or even from voting.

On one occasion an ordinary competition brought in 450 pictures. The walls were plastered with them from top to bottom. The meeting lasted from six o'clock to half past eleven, and only those went away who had to catch trains. The club is the creation of a big time industrialist and business man, Mr. Shinzo Fukuhara, who as founder and president, governs the doings not only of this branch of the Japan Photographic Society but that of a great many in the provinces. He is one of the most prolific print makers, a noted critic, editor of the Society's magazine, writer of books, organizer of the monthly and yearly national and international exhibitions, donator of expenses, designer of covers, medals and diplomas, and a few things more I cannot remember at this minute. There is a patriotic and religious zeal, a loyalty to the ruler, and to the country, in the Japanese, high and low, which in my opinion is unexampled on earth. They are organized, tuned together for work and pleasure more coherently than even the Germans, and this is saying a great deal. Of course I might be mistaken, these are only first impressions.



"Solarization"

Yoichi Asano

Naniwa Shashin Club

And now a few random observations about Photography in Tokyo. Sitters won't look into the lens, even if you ask them to do so. It is supposed to be impolite to stare at people, so they don't want to do that even from a photograph. To flatter a Japanese one must make him dignified, aloof. Broad smiles, warmhearted intimacy are not considered polite.

To transmit one's troubles to others, who are cheerful, or to cheer one up, who elects to be somber, is not in good form; therefore your face must be equanimous, lack real expression. This is the source of one shortcoming of the Japanese portrait-photographer, when doing foreigners, who do like soulful or happy expressions in their faces. (But don't take all this as absolute—Japan is getting Westernized at an astonishing pace—the movies and stills of the stars are changing things to a great extent.)

There is not a single non-Japanese in business as a professional portraitist in Japan; while in China the most successful ones are foreigners. No foreigner understands Kimono, nor the way of thinking or feeling of the Japanese when doing business. Advertising, for instance, would spoil the standing of even the best portrait-studio, people would think that the place is failing and would stay away from it. Free sittings, telephonic soliciting, prints for credit-lines for the press are unknown in Japan.

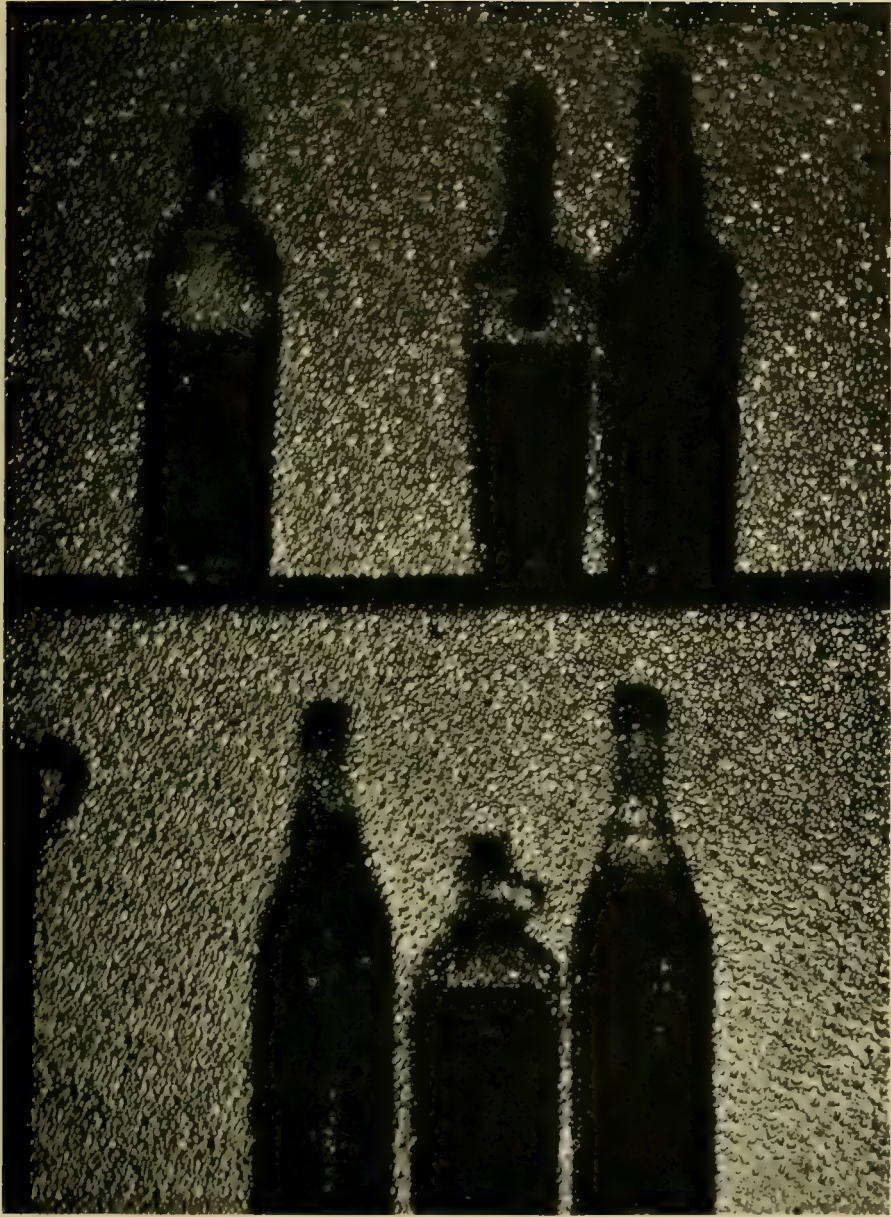
You cannot buy regular weight white or cream mounting board in Tokyo, they don't make them. Mounts are either too heavy or too light. Could not find out why.

Advertising photography, especially of the direct-color sort is in its first baby shoes in Japan. Fancy prices for photography of any sort are legendary in this country. Nor is photography considered an art, but a craft, therefore remunerated as all other crafts, which is to say, very, very sparingly.

The National Academy of Arts is appointed by the government, not elected by the artists, or the people. It includes calligraphers, actors, musicians, but no photographers or moving-picture makers.

Most Japanese retouchers have perfect touch and can so retouch that it is impossible to detect it with the naked eye. But they often do not know what to retouch away. They will remove dimples, for instance, but leave disfiguring proturbances or hollows. Ideas of beauty are changing in Japan. The narrow slit, slanting eye, big curved nose, small chin, long distance from nose to lip, (enhanced by powdered upper lip), neck painted snow white, are yielding to the Hollywood type of beauty, with plucked eyebrows, high heels, undulating curves of the body, short hair with permanent wave, and so on and so forth. The photographers must follow suit and change the sweet little musumes into snappy American misses.

This makes many a patriot sore, but so far they have not stopped the triumph of Americanization in Japan. Their language even is enriched with American words such as "hot dog," "O.K.," "ice-cream," "compact," and so on. My greatest surprise in this respect was that expressions of picture composition were taken verbatim from the English. I expected "notan" and they use "tone." "Edge," "Texture," "Emphasis," "Expression" and many more would pop out of Japanese conversations, till I realized that they, traditionally magnificent artists of composition, turn for information to books written in English or German, and learn from us, instead of us learning from them.



"Glass"

Masao Sakai

Naniwa Shashin Club

In case you did not know it, of foreign nations the Americans are first and foremost to the Japanese. The English and Germans follow at dead heat, but quite far behind the American. This is quite a satisfaction to an American who is so often patronizingly high-hatted by some self-important European.

There is nothing new or modern popping up in America or in Europe that is not immediately noticed, then imitated and in rare cases emulated, by the Japanese. This is so in photography, too. One exhibition, hailing from Osaka, the great industrial center of Japan, took me aback with a vengeance. Solarization, photograms of all sorts, sometimes of live fish or tadpoles, photomontage of the trickiest sorts, imitations of ultra modern paintings were all there. Every known device of the radical innovator was represented, executed in faultless workmanship, printed on huge sheets of glossy or smooth paper. It seemed more an exhibition from the Latin Quarter of Paris, than from the formal and prim city of Tokyo. The leaders of the Naniwa Photographic Society whose exhibition this was, were kind enough to loan some of the prints to show Americans that they aren't behind anyone when it comes to quick and lively thinking and acting in photography.

Kodachrome Exposure

Dudley Haskell*

Use of the Grey Card and Colored Cards to
Get Better Color Rendition with Kodachrome

TO bring out the full beauty of Kodachrome film requires nearly perfect exposure. Perfect exposure is obtained in two ways: the first is by trial and error and the second, by knowing exactly the strength of the light reflected or transmitted from the subject, *plus* the very important additional knowledge of how to interpret the effect of this light on the film. Trial and error is not generally applicable to Kodachrome motion picture film because of the relatively long wait for processing. Hence in serious work it becomes necessary to be sure of the result before exposing.

By using the exposure charts supplied with Kodachrome good results will be obtained, but the system of lighting for type A film is too limited for extended use and the daylight guide allows for only standard conditions. Most of the author's experience with Kodachrome has been obtained in making commercial films for a large paint manufacturing concern. Plenty of vivid color was dealt with, such as colored panels, colored liquids, chemicals, oils, wallpaper, interiors, exteriors, furniture, colored lamps, window displays, red lead and litharge furnaces, molten lead, pigments, liquid paints, paste colors, colored tiles, labels, lithographed cans, etc. In only a minority of cases has it been possible to use the Eastman exposure chart for either daylight or artificial illumination. It was also found that the ordinary method of reading the photo-electric exposure meter directly from the object, as recommended, did not give uniform or satisfactory results. This is

*Chemist, W. P. Fuller & Co., San Francisco.



"Beach"

Yuko Umebayashi

Naniwa Shashin Club

because highly colored objects and very light and dark objects do not always lend themselves to correct exposure setting on the dial of the meter. The meter reads the footcandles correctly, but the dial, which must be turned to get the exposure setting, is calibrated for objects of medium brightness or light reflection. For ordinary purposes of black and white photography this does not make any particular difference, but when it is necessary to hold exposure within close limits, as in the case of Kodachrome, it makes a very practical difference, and is the cause for much surprise and disappointment on the part of those who rely implicitly on the gadget-turning device of their meter.

Reasons for Under and Over-Exposure When Using a Meter

Contrary to popular belief, beach scenes and snow scenes are frequently underexposed. The photo-electric meter gives a very high reading because of the high reflection from sand or snow. The theory of the meter is to integrate the light and dark portions and indicate the average brightness of the scene so that an average amount of silver will be produced on the negative. The rotating dials of the meter are calibrated on the assumption that all scenes are of average brightness. In the case of the bright sand, it is desirable that this be allowed to act upon the film sufficiently long to produce a heavy deposit of silver in the negative, which, in turn, is converted into a light, transparent deposit in the positive. Since the meter (calibrated dials), however, aims to bring out an average deposit and as the light sand occupies the main portion of the frame, it will, if exposed according to the meter-exposure-setting device, produce an average silver deposit in the negative, which will produce an average deposit in the positive. Instead of being almost white, the sand will be medium gray, hence obviously underexposed. This explains why the meter must be disregarded when it reads f:16 or f:22 on Kodachrome motion picture film.

Exposure meter manufacturers have not exploited this problem sufficiently. It is somewhat difficult to explain and perhaps a little hard to grasp, but once understood the door is opened to better color photographs. In the booklet describing the use of the photo-electric meter the writer is using, the following statement is made: "It can be shown mathematically that the brightness of an object (the light reflected from it) is the direct criterion of exposure, and not the intensity of the light falling upon the object." Without proper qualification this statement will lead to much faulty exposure in the case of Kodachrome. We have already considered the case of underexposing on bright objects, let us examine more specifically an actual example of over-exposing on dark objects.

A very pale green tinted cardboard was set out in the shade and photographed on Kodachrome 16 mm. motion picture film. A reading on the meter held close to the card showed a brightness of 85 footcandles. By trial and error it was found that at 1/30 second (the standard shutter speed for all exposures considered), f:4 was the proper stop. (This was actually determined by exposing at different stops and sending the film in for processing).

A very deep green card was substituted for the light tint. This read 8 footcandles. By implicitly following the statement in the exposure meter booklet (and also the film speed-shutter-setting dials of the meter), one would assume that an exposure of $85 \div 8$ or 10 and $\frac{5}{8}$ times that for the



Figure 1

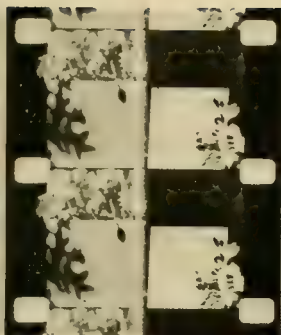


Figure 2



Figure 3

light green card would be necessary to properly render the dark green card. By opening up our lens between three and four stops to $f:1.3$ we would obtain this value, but the dark green would be represented by a very washed-out and over-exposed image. Experimentally it was found that $f:4$ gave quite satisfactory rendition of the dark green card. Actually, however, a *slightly* larger stop would have given a truer rendition, due to the lack of latitude in Kodachrome—as explained later.

This should not cause surprise, because when we give a dark color more exposure on the film in inverse proportion to its light reflecting power as compared with a light color, the dark color reduces the same amount of silver halide to metallic silver as the light color acting for a shorter time or at a smaller f . value, and the resulting positive of the dark color is just as transparent or light in density as that of the light tint. The film has received equal exposure to the action of light in each case and the resulting positives are equal in density—which, of course, is obviously wrong.

Figure 1 is a monochrome print made from a 16 mm. Kodachrome test strip of a white card. The left half of the frame was taken in sunlight at $f:12.5$ and the right half in shade at $f:3.2$. The reflection intensity was $1000+$ footcandles and 90 footcandles respectively. Notice that the two tones of white are quite similar. This illustrates the fact that if we have an object of constant reflection it is practical to follow the exact proportions of the exposure meter settings. It is only when objects vary in intensity and color that the exposure meter readings must be interpreted, as will be explained later. Figure 2 is of white card made in shade at $f:3.2$ and black made in sunlight at $f:3.2$. It will be observed that the black on the left is almost the same density as for the white. The meter read 80 footcandles for the black in sun and 90 for the white in shade. By making no allowance for the difference in intensity inherent in the color by taking the meter reading without interpretation, both of these cards were exposed at the same stop. The over-exposed background is evident on the black.

Figure 3 shows two views of a girl holding a gray card. The card read 6.5 footcandles on the left and 20 footcandles on the right. The lighting was obtained from a single No. 4 Photoflood in a reflector shielded in one case and open in the other. The aperture was $f:2$ in each case and illustrates the effect of three times over-exposure.

The lesson to be derived is that each shade, tint and color should be allowed to act upon the film (within the straight line portion of the H. & D.

curve) in exactly the same proportion as the intensity of light which it reflects. For example, the dark shade should produce $8/85$ the reducing action on the film of the light tint—in this way the dark shade is reproduced as a dark shade and not as a light tint. This means that all colors, shades and tints receiving the same amount of light from the same source should be exposed equally (same stop and same shutter speed).

There is an exception to the above rule which can be explained readily. The effective latitude of Kodachrome film, which cannot be compared directly with ordinary film, since it involves three super-imposed emulsions, is less than ordinary film, so that a very light object and a very dark object extend slightly beyond the straight line portion of the H. and D. curve. This sometimes makes it desirable to increase the exposure a half stop for dark subjects and decrease it a half stop for light subjects. This slight increase or decrease in exposure is not to be confused with the very large difference indicated in footcandles between a light and a dark subject. A more complete explanation of this deviation would require a mathematical analysis of the three H. and D. curves of Kodachrome, which is beyond the scope of the present article.

Light Intensity the Criterion of Exposure

If the reader has followed the foregoing line of reasoning, he will be willing to concede that to correctly judge exposure for a subject seen by reflected light, it is more advantageous to know the strength of the light falling on the subject than to know the strength of the light reflected from the subject itself.

Methods for Determining Light Intensity

To determine light intensity a white card is used to reflect the light into the exposure meter. For ordinary purposes it may be assumed that a very white, flat surface will reflect about 85% of the incident light. Therefore, if our white card reads 85 footcandles, our lighting will really have a value of 100 footcandles.

For practical purposes it has been suggested that a gray card be substituted for the white. The gray having a lower reflecting power will more nearly match the reflection values of normal objects. We are not primarily interested in the footcandle power of the light, but our chief concern is in being able to determine the relative strength of light under varying conditions. For example, if we make a photograph at $f:4$ which is correctly exposed and our gray card reads 32 footcandles, this can be established as a standard of comparison for future exposures. Whenever the meter reads 32 on this particular gray card an exposure of $f:4$ is indicated. If the card read 130, the exposure would be at $f:8$, and if it read 8 footcandles, the exposure would be at $f:2$.

To make this applicable to any other readings, the "film speed" can be determined for use with the gray card by setting the arrow on the light value indicator opposite 32 and then turn the film speed dial so that $f:4$ is opposite $1/30$ second. This will give for this particular card a "film speed" value of 12 on the Weston meter. If the card had a different brightness, a different "film speed" would be obtained. This "film speed" is not to be confused with *actual* film speed, and is only to be used with Kodachrome and the special gray card. This method was mentioned briefly in a previous number of CAMERA CRAFT and from my experience it gives far better results

than readings taken directly from the subject. There are certain cases when it will not be applicable, as for incandescent bodies such as lamps, flames, etc., and also in intensely brilliant light coming from a point source such as direct sunlight, precautions must be taken which will be described later.

To illustrate the value of the gray card system, twelve brilliant show card colors were painted out heavily on cards 12" x 16" and tested for light reflection in sunlight, in open shade and with photoflood illumination. The results are tabulated below:

Light Reflection of Saturated Colors in Footcandles

	Direct Sunlight May 1, 9:30 A.M.	Shade Open blue sky	One #4 Photoflood in Victor reflector 7 ft. from subject
Violet	200	12	13
Blue	400	23	19
Turquoise	500	30	31
Blue-green	600	32	45
Green	475	22	32
Yellow-green	800	32	65
Yellow	1000	50	130
Yellow-orange	900	40	100
Orange	500	31	67
Vermilion	475	28	60
Red	320	15	32
Magenta	600	28	40
White	1000+	90	160
Black	80	3.2	4
Gray Standard	400	20	25

The above colors were photographed individually in the sun at f:12.5, in the shade at f:3.2 and in photoflood light at f:4. Although each color was photographed at the same stop under the same lighting conditions, the resulting film represented closely both the color and density of the cards. In order to compare the colors in the sun against those in the shade, one half of the film was masked for the exposures made in the sun and wound back and exposed for the corresponding colors in the shade. It is evident in viewing the images side by side that those made in the shade are of a definitely bluer caste than those made in direct sunlight. The densities are practically equal.

It was thus shown experimentally that when dealing with saturated colors, there is one and only one correct exposure for all colors illuminated by the same strength of light. So-called compromises between areas of high and low reflection should only be made when the intensity of the illumination varies within the picture area, as for example, when heavy shadows exist.

Effect of Over-Exposure and Under-Exposure on Saturated Colors, Shades and Tints

Sometimes it is desirable to purposely under-expose or over-expose part or all of a scene. To determine the effect of under- and over-exposure three colors were selected from the above list—red, green and blue, the colors to which the three layers of Kodachrome are sensitive. In addition to the saturated colors, two shades and two tints of the same were painted on 12" x 16" cardboards. The shades were made by adding black to the

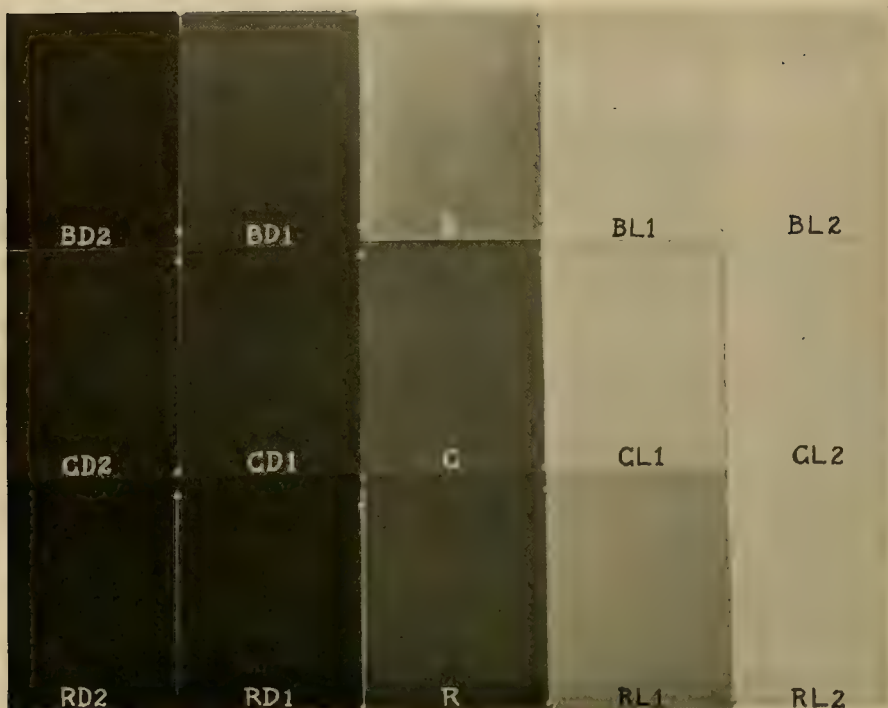


Figure 7

saturated colors and the tints by adding white. Each shade or tint was so blended as to reflect half as much light as the next lightest. Figure 7 shows the colors attached to a large panel photographed in open shade. They are identified as follows:

	Reflection in footcandles	
	SUN	SHADE
BD2—Darkest shade of blue	140	8
BD1—Deep blue	200	13
B—Ultramarine	400	32
BL1—Light turquoise	1000	65
BL2—Very pale sky blue	1000+	90
GD2—Brewster green	130	8
GD1—Deep green	220	12
G—Emerald green	350	16
GL1—Light turquoise green	1000	50
GL2—Very pale green tint	1000+	85
RD2—Dark maroon	120	5
RD1—Dark brownish red	180	8
R—Red	320	14
RL1—Deep coral	800	32
RL2—Pale pink	1000+	80

By giving a series of stops ranging from $f:3.5$ to $f:16$ in the case of sunlight and $f:1.9$ to $f:8$ in open shade, it was found that $f:14$ was the best for sunlight and $f:4$ in the shade.

Assuming $f:4$ in shade to be the correct standard, the following effects are listed on under-exposing and over-exposing the three primaries and their shades and tints (see table on facing page):

Table Showing Effects of Variations in Exposure on Test Colors Shown in Fig. 7

<i>Over-exposure 2 stops</i>	<i>Over-exposure 1 stop</i>	<i>Correct Exposure</i>	<i>Under-exposure 1 stop</i>	<i>Under-exposure 2 stops</i>
BD2—Medium blue-gray	Dark blue-gray	Dark navy blue	Blue black	Apparently black
BD1—Light gray-blue	Medium gray-blue	Same slightly grayed	Same slightly lighter	Just off black
B—Sky blue	Light bright blue	Bright ultramarine	Ultramarine—grayed	Dark gray-blue
BL1—Barely perceptible	Pale blue tint	Sky blue	Light gray-blue	Medium gray-blue
BL2—Completely lost	Just perceptible	Pale sky blue	Grayish sky blue	Light blue-gray
GD2—Medium green-gray	Medium brown gray-green	Very deep green-gray	Dark green-gray	Black green tinge
GD1—Slightly lighter gray-green	Slightly lighter gray-green	Slightly lighter gray-green	Same slightly lighter	Slightly lighter
G—Faded green	Medium green	Dark green	Dark green	Dark green-gray
GL1—Very light faded green	Fairly bright washed-out green	Pale green	Light green-gray	Green-gray
GL2—Barely perceptible	Faint green tint	Pale greenish tint	Very pale green-gray	Light green-gray
RD2—Medium brown-gray	Dark reddish brown	Brownish black	Deep brown	Just off black
RD1—Faded brown	Medium brown red	Dark brown	Slightly lighter	Slightly lighter
R—Pale Coral	Bright light red	Red	Deep red—dense	Dark brown—grayed
RL1—Pale pink	Light coral	Dark coral	Dark gray coral	Vermilion—grayed
RL2—Lost	Faint pink	Light pink	Pink—slightly grayed	Very "dusty" pink



Figure 4



Figure 5



Figure 6

Comparison of Exposure: 1. Direct Sunlight vs. Diffuse Light 2. Two Dimensional vs. Three Dimensional Objects

In direct sunlight it was found that between $f:11$ and $f:16$ gave the best all around rendition. This may appear to be in conflict with Eastman's Chart, which calls for between $f:8$ and $f:11$ for objects in sunlight. To explain this it must be pointed out that three dimensional objects cast shadows and their surfaces are seldom at right angles to the direction of the sun. Only the highlights reflect the full intensity of the sun, similar to the flat cards set out at right angles to the sun's direction. When exposing in point lighting it must be remembered that shadows are intense and since the light is only coming from one direction, any deviation from the perpendicular to the source of illumination causes a corresponding drop in the intensity of the reflection. For this reason, in brilliant sunlight or in any other form of single point lighting, it is generally necessary to give a greater exposure than a reading of the gray card calls for. As this type of lighting is confined almost entirely to direct sunlight, then it is best not to attempt either direct readings from the object or from the gray card, but to simply rely on Eastman's chart, which calls for $f:8$ with dark objects, between $f:8$ and $f:11$ with medium and $f:11$ with light objects. In rare cases with flat objects without shadows, such as signboards and walls at right angles to the sun, use as small a stop as $f:16$.

This accounts for the apparent discrepancy in Eastman's Chart for outdoor lighting. It is recommended that average subjects in open shade be given an exposure of $f:3.5$ to $f:5.6$. This is only about four times that recommended in bright sunlight. While as already explained, the exposure meter shows a ratio of reflection between sunlight and open shade of at least 16 to 1. Figure 4 is an enlargement from 16mm. Type A Kodachrome made in sunlight at $f:8$. The gray card read 400 footcandles at right angles to the sun. In Figure 5, taken a few minutes later, the subject had her back to the sun. The gray card read 32. Exposure was at $f:4$. It will be observed that in Figure 4 the brightest highlights are burned out due to over-exposure while the deepest shadows are dense and under-exposed. In order to get a correct rendering of the highlights a stop of $f:16$ would be required and for a correct rendering of the shadows a stop of $f:4$. The compromise was $f:8$.

In Figure 5 the figure was in shadow and the difference between highlights and shadows on the figure was slight, hence no compromise was necessary. Figure 6 was taken under bright, cloudy conditions. The gray card read 40 footcandles and exposure was at $f:4.5$.

Method of Exposing for Transmitted or Radiated Light

There is one type of exposure which we have not yet touched upon—where the light is either radiated from the object, as in the case of flames, or transmitted through transparent or translucent substances, such as glass windows, lamp-shades, etc. Reflected light does not play any part here and obviously the use of the gray card is not possible. By making use of our knowledge of the relative reflecting powers of the various colored cards, however, we are in a position to make accurate exposures on church windows, colored lamps and any objects visible by transmitted light. To do this, take a reading from the object, then select the card nearest in color to the object and observe its reflection and exposure value under the standard conditions listed above.

For example, we desire to photograph the green shade of a lamp lit from within by a photoflood bulb. The meter held against the lamp-shade gives a value of 65 footcandles, our chart for photoflood at $f:4$ gives green a reflection value of 32 footcandles, therefore for this lamp, stop $f:5.6$ should be used for correct rendition. It may be desirable also to over-expose to create the effect of brilliant light coming from the lamp. In order to select the proper stop for this, we make use of our knowledge of the effect of over-exposure listed above. This is only one example, but many others could be cited where information on relative color reflection gained from the set of large colored cards could be put to practical use. This can best be worked out by the reader.

Relative Sensitivity of the Three Layers to Various Colors

Figure 8 shows the twelve standard saturated or near saturated colors used in the tests. Color separation negatives were made on Defender Tri-pac film and later printed with Chromatone. In the illustration the positives are merely silver images ready to be dyed in the complementary colors to those which affected the negative. When dyed they are superimposed. A study of the densities of silver deposited will give an insight into the way various colors affect the three emulsions of Kodachrome, since the Tri-pac-Chromatone system is analogous in theory to Kodachrome.

Observations on Recent Technicolor Productions

A study of recent motion pictures in color will show that dark colors are shown as dark colors with no effort to over-expose or over-light the dark colors in order to make them more visible. As a result, the well-exposed new Technicolor gives the effect of soft, subdued richness, whereas the former slightly over-exposed pictures were somewhat harsh and garish. A further study will also show that subjects are seldom taken in direct sunlight.

Rules for Use of the Gray Card

1. For ordinary subjects give standard value of gray card.
2. For two dimensional subjects, such as motion picture titles, give one half stop less exposure.
3. For subjects which although lit by diffused light have surfaces



Figure 8. The column on the left shows the set of three color separation negatives made on Defender Tri-Pac. From top to bottom these are the Blue Record negative, the Green Record negative and the Red Record negative. The Positives shown in the right hand column are reproductions from the silver images before they are dyed in the complimentary colors to those which affected the negative, to produce the Chromatone print in color. In other words these are black and white prints from the color separation negatives adjacent to them on the left. From top to bottom these are the Yellow Printer from the Blue Record negative, the Magenta Printer from the Green Record negative and the Blue-Green Printer from the Red Record negative.

In the original color chart photographed for this test the colors are against a black background. The reader should not let this confuse him with regard to which are the negatives and which are the positives in the above reproduction.

mostly at acute angles to the direction of the light source, give one half stop more.

4. For colors approaching white in tint give one half stop less.

5. For colors approaching black in shade give one half stop more.

Even if the above modifications for reading the gray card are not followed, by using it you can still get better results with Kodachrome. As the reader well knows, perfect exposure with Kodachrome is not easy to master. Good results can be obtained by carefully following the Eastman charts, but for those who desire to bring out the full beauty and possibilities of Kodachrome, the writer feels that his experience and experiments given here will be of service to them.

The figures on f: stops and meter readings are set down exactly as recorded. As cameras and meters vary, the reader is cautioned not to fully accept these figures without first checking his own equipment.

The experiments reported in this paper were carried out with 16 mm. Kodachrome Motion Picture Film, and a Motion Picture Camera. It will be obvious to the reader, however, that the data given and the methods explained will be equally applicable to 35 mm. Kodachrome and still cameras.

The Elements Of Filter Use

Karl A. Barleben, Jr., F.R.P.S.

THE use of a filter in photography is generally a corrective one. That is to say, a filter serves to make up for the deficiencies of the emulsion. It is well known that even our best emulsions are still too sensitive to the blues . . . to cite just one example. It is in an effort to overcome this unnatural (as far as man sees color) effect as produced by the photographic emulsion, that we resort to the use of filters.

There appear to be two extremes among amateur photographers as a rule. One type of amateur never uses a filter. The other is not happy unless he has a battery of filters, and uses each color with glee . . . on every exposure made. Both extremes are unsatisfactory, for the middle course is obviously the most practical and satisfactory. An excellent rule to follow is to use the right filter when it can do some good in improving the scene, and use no filter whatever when a filter is not able to help in the betterment of the picture.

Pick up nine out of ten amateur snaps which contain sky area. Only one out of the group will show some semblance of proper tonal value in the

sky areas. The other nine show the sky as a pure white, blank expanse . . . which looks no more like the sky than the kitchen stove. The answer is obviously the lack of a filter in all such cases. After all that has been said about filters in the past, it is indeed a wonder that there are any camera owners left who still ignore this most useful of attachments for the camera.

With summer vacations about to be planned, it is a good time to give the matter careful consideration, if really good vacation pictures are to be produced. It is, of course, unthinkable that the camera owner would go on a trip or vacation without his camera.

Possibly the beginner may experience difficulty in the selection of a proper filter, especially when there are so many makes, styles, qualities and colors. With this in mind, let us briefly review the more commonly used filters for average photography, and see just which ones would best serve the beginner. It should be recognized that there are hundreds of different filters, each with its definite use. The cameraist, however, should definitely not be led to believe that he needs as many as six or seven. Even two or three will cover his requirements most adequately. Here is where many beginners get into trouble . . . they buy a half dozen or even more filters at a time, and then try to puzzle out what to do with them when they get home. The most logical and satisfactory way to indulge in filters is to buy them one at a time, and not to get the second until the first has been thoroughly learned and mastered as to its applications and use. This is a very important point, and I wish every tyro would take the suggestion seriously for his own good.

All right. We start from scratch. We own a camera, but as yet, no filters. What would the first filter be? It should serve in the vast majority of cases, and with both orthochromatic as well as panchromatic film (the vast majority of filters commonly used today are designed for use with panchromatic film only). A medium yellow filter is, by all odds, the most popular and useful, and it therefore should be the very first filter to buy. Its use is not complicated, it can be used for almost every exposure (if need be), and it works well with all types of emulsions. I suggest a medium density in preference to a light or heavy density yellow filter because, in my opinion, the lighter densities are often neutral in their results; that is, they do not show much, if anything, for their use. The deeper densities overcorrect, and give the beginner some cause for wonder, unless he is acquainted with their characteristics.

There are innumerable makes of yellow filters, the most popular being the Wratten, Agfa, Lifa, Rhamstein, Ilford, Harrison, Zeiss, Leitz, Fish Schurman, etc. All are good, and it remains for the individual to select the brand he prefers, of course. In addition, there are many variations of yellow filters, ranging from very pale lemon to close to orange. In order to avoid confusion on this score, what is meant in this article by "medium yellow" is a shade which approximates the Wratten K2 or the Agfa No. 3. It will be found most useful over the widest range of photographic subjects, bringing into being a good tonal rendition of the sky and clouds, and giving mighty close to full color correction with most panchromatic emulsions.

While discussing yellow filters, I should like to point out a type of filter which seems to have slipped past most amateur photographers . . . the Wratten Aero series. Everyone at all acquainted with photography knows

"Sunset On The Beach"
Karl A. Barleben, Jr., F.R.P.S.

*Panchromatic film
with a K-2 filter.*



well the K series (K1 and K2), but few know, or at least use, the Aero series (Aero 1 and 2). It is true that the Aero filters were designed expressly for aerial photography, but they serve wonderfully well in general photography, and give even stronger results than the K filters. I find the Aero filters most suitable, and have lately come to use them almost exclusively in preference to the K filters. However, this is a personal matter, and you may not find my choice entirely to your liking, but I give this thought to you for what it may be worth.

Assuming that the medium density yellow filter gives you all the corrective results you want, the second filter may well be one which produces stronger contrasts by virtue of over-correction. You can resort to any number of filters for this, but it should be kept in mind that a panchromatic film is, in most cases, indicated. Take the light red filters, which usually produce those attractive dark sky areas and bring out the white, fleecy coluds in all their splendor against the dark background. My choice is a cherry-red shade approximating the Wratten A (the 23-A is somewhat lighter and is often capable of giving similar results). If you are timid about using a red filter, try a deep yellow, such as approximates the Wratten G filter. This will give good, strong tones.

Of late, much has been heard concerning green filters, and while many are entirely satisfactory with all panchromatic emulsions, they are, in general, intended to correct the over-sensitivity to red which certain brands of panchromatic films possess. The Wratten X1 and X2 filters in particular, are intended for use primarily with Eastman panchromatic films (Panatomic and Supersensitive). To use them with other brands of panchromatic emulsions, while doing no harm, does no special good. This is a fact rarely

recognized by many cameraists. Some green filters have a definite yellowish cast, and are intended for use with all emulsions, including orthochromatic, but they are not of the X series, nor do they even approximate it. Where a doubt may exist, stick to the yellows and secure the correction to a known degree in your pictures.

Another type of filter which is mighty useful, and which has come into vogue during the past several years, is what is commonly known as the UV filter. The UV stands for "ultra violet," and the color of the filter is practically that of clear glass. A very faint greenish-yellow cast may be detected in it upon close examination, but in general, it is usually regarded as "glass clear." The UV filter is an excellent filter to have handy at all times, for it may be left upon the lens for all kinds of photography, using both orthochromatic and panchromatic film. Its chief function is to eliminate the excess ultra violet light which is particularly heavy at high altitudes . . . hence the recommendation of a UV filter when in the mountains.

That the UV filter is suitable for aerial photography is a mistaken idea. It must be remembered that in aerial photography, most pictures are of a vertical or close to vertical nature, shooting downwards towards the earth. Ultra violet light diminishes towards the earth, hence the UV filter serves little or no purpose in aerial photography except, of course, when horizontal scenes are made while in the air. It is safe to say that in mountainous regions the UV filter finds its greatest service, for at such altitudes, an abundance of ultra violet light predominates in the atmosphere. The UV filter cuts through this and renders sky areas in a natural, pleasing manner without in the least over-correcting them.

With the few previously mentioned filters, the cameraist should be able to tackle almost any photographic problem of a general nature. As a need for additional filters is felt, they may be added, but in most cases, any additional filters will serve only as duplicates of those already at hand, and may therefore be regarded as superfluous.

The use of filters is absurdly simple, but often the "filter factor" serves to confuse the beginner. This should be understood. It can readily be seen that a filter, regardless of its color, does nothing to add to the picture. On the contrary, it takes away certain portions of the light. Because of this taking away, cutting out, or filtering action, call it what you will, the exposure must be lengthened in order to compensate for the loss of light caused by the filter. Unfortunately, this cannot be made a definite rule with regard to the amount of increase in exposure necessary, for we have not only the filter action itself to account for, but also the type and condition of the light at the time of exposure. The human eye does not see light exactly the same as does the photographic emulsion, hence it is difficult to even guess at the correct lighting conditions. Added to this, we know that sunlight is not only extremely variable from season to season, day to day and even hour to hour, but possesses different qualities at various times of the day. To illustrate, the light at early morning is usually clear and blue. Late in the afternoon it becomes decidedly yellowish. This variation will obviously have a definite effect upon a fixed filter factor.

Another consideration is the emulsion used. When we refer to a "panchromatic" emulsion, we cannot mean anything very specific, for each brand and type of panchromatic emulsion differs in its characteristics. Aside from



"Summer Calm"

Karl A. Barleben, Jr., F.R.P.S.

Panchromatic Film and Aero #2 Filter

the responsiveness to light in general (speed), a panchromatic emulsion has a certain responsiveness to various colors; a greater sensitivity to one color than to another. Here again, we encounter a considerable variation with regard to filter factors. It can be recognized from these few elementary facts that a definite filter factor cannot be assigned to any filter except only in a very general way. To say a filter has a "two times" (2x) factor really means nothing, if we wish to be precise. It does, however, give a general idea from which a more accurate factor can be determined. Reference to any filter factor table will show at a glance that each film has a different filter factor for the various types of film, and wherever possible, an accurate table of this sort should be used and consulted. Even then, some judgment will enter into the matter, for the table cannot take into account the quality of the light. The best it can do is give approximate factors for "daylight" and "tungsten light."

The subject of filters is a study in itself, and obviously it is impossible to delve into the matter within the limits of this article, particularly as there are several other angles I'd like to convey before "finis" is written. For those who are desirous of going further into the matter, I suggest a reading of the Eastman Kodak publications "Wratten Light Filters," and "The Photography of Colored Objects."

Filters, it must be remembered, are ground and polished with the same care and exactness as photographic lenses. We are considering only the

better grade of filters in this remark, of course, for we hope that by this time no one is foolish enough to purchase inexpensive filters. Good filters cannot be made at a low price. Because filters are so carefully made, it stands to reason that they require as much attention and care as a lens. They should be frequently cleaned and polished, and for this purpose, I know of no better medium than Japanese lens cleaning tissue. Under no circumstances apply moisture (water or chemicals) to the filters for the purpose of cleaning. This caution is especially important in connection with filters of the cemented type. Solid glass filters do not deteriorate or spoil under action of water or chemicals, yet it is wise to abstain from the application of any moisture. By breathing upon the two surfaces, sufficient moisture will be condensed to make it easy to remove any dust particles with the aid of the lens cleaning tissue.

When not in use, filters should be stored in such a way that they are afforded complete protection from damage. About the most convenient and practical method of filter storage I know of is to be found in the filter cases made available to owners of the National Graflex and Argus cameras. I own two National Graflex filter cases, each holding six filters, and it is indeed a pleasure to be able to get at them on a moment's notice for use, while at the same time, when not in use, they rest, fully protected, in their individual holders in the case. Each case is carried most conveniently in a pocket or in the camera case. They are of the "book" type, and open fully.

Where only one or two filters are used, each may be kept in its special individual case and carried in a pocket when afield. Some makes of filters are supplied in serviceable individual cases which offer protection and convenience. Some amateurs may prefer to make a case after their own design, suited more definitely to their needs. They may be done without difficulty . . . it is only necessary to provide safe storage for the filters first, and convenience in carrying and handling, second.

There is one other matter which is worthy of consideration at this time when thoughts of filters are given attention, and that is the subject of sunshades (also called lens shades). A sunshade is, in my opinion, a very useful accessory, and should be used for every exposure. It prevents unwanted light rays from reaching the emulsion through the lens and makes possible the aiming of the camera almost into the source of light. Modern photography calls for pictures made with various lighting angles, and in all such conditions, a sunshade will enable the lens to be aimed at will without fear of fog or flare on the emulsion. There is also this to consider. Even with the light coming from the rear of the camera, there is generally some light which reaches the emulsion which is not especially wanted for the purpose of forming the image. This unwanted light often produces flatness and lack of brilliance and snap. Try this out for yourself sometime; set up the camera and make two exposures, one with a sunshade over the lens and the other without it. You will find that the sunshaded shot will produce a crisp negative, full of brilliance, while the unshaded shot will likely be veiled and generally flat in tone due to the slight presence of fog from reflected light.

A sunshade is admittedly a nuisance to carry about because of its size and shape. It is probably because of its awkward shape that most amateur cameraists have neglected to use it more frequently than they have. How-



"Along the Waterfront"

Karl A. Barleben, Jr., F.R.P.S.

Panchromatic Film with 23-A Filter

ever, in recent years, very practical sunshades which can be folded or collapsed have been perfected and placed upon the market. One type of shade is made of a celluloid compound, and when flattened, has a thickness of only a few sheets of ordinary paper! Thus it can be carried about without the least trouble. Of more recent introduction is the Voigtlander sunshade, made of a rubber compound. This shade is corrugated and collapses into a fairly thin, but perfectly flat, disc. A composition case is provided with it, and if kept in this case when not in use, the shade is protected and easily carried about. It is available in several sizes, so that one of the sizes can be made to fit almost any lens diameter.

Speaking of folding sunshades, we shouldn't overlook the excellent leather shade which is made for use on the National Graflex camera. This shade differs somewhat from the conventional shades which slip onto the rim of the lens. It does not grip the lens at all, but slips over the front lens board of the camera, while the hooded portion protects the lens from stray light coming from all angles, but primarily from the top. This shade is provided with a flat leather case which protects it when not in use.

It will be evident that the bulk and awkwardness of the sunshade need not today prevent the cameraist from using it. There are various types and models of the folding or collapsible type, and one will surely be found to fit every lens. Thus the manufacturers have eliminated the last possible objection to the sunshade, and it should be regarded as law to use it in all forms

of photography. By all means, do not fail to equip yourself with one, if you would have the best possible results in your pictures.

It goes without saying that the sunshade should go over the filter, although this is not always possible. While it is usually satisfactory to slip the filter over the outer end of the sunshade, it is evident that the shade in this case serves no good purpose, for the filter is capable of picking up stray light, just as is the lens, although not to such a marked degree, because its surface is flat and not rounded, as is the case with the lens. Some shades are made to form a combination shade and filter holder. Among these might be mentioned the HCE (Hollywood Camera Exchange) and the Rhaco. The former is available in numerous styles and sizes to fit the majority of lenses, and in the larger sizes, is fitted with a holder to accommodate 2-inch square filters. Smaller sizes, such as those made for miniature cameras, accommodate 32-mm. round filters, unmounted, and are very popular. In many cases, the sunshade is made to fit over the filter mount, as is the case with the Argus, National Graflex and other cameras.

All in all, the matter of filters and sunshades is indeed a variable one, yet one which can easily be solved by the cameraist who will analyze his equipment and requirements and make his purchases accordingly. All too many simply walk into a photographic supply store, ask for a filter and sunshade, and go home with their purchase. It is not until later that they discover that their newly acquired accessories are not suited to their camera. This frequently results in discarding and neglecting to further use such accessories . . . a pity, when you stop to consider how vital they are to good photographic results. Stop, look and listen may be a good slogan for the railroads. It is likewise just as good in photography. Don't buy the first thing the salesman hands you; make sure it is suited to your needs.

A Warning To Judges

J. H. Sammis

ANYONE who has ever exposed a light sensitive surface is a potential jurist. He may never serve on an international jury but in his own little circle he may be a Caesar, Napoleon, Stalin, Mussolini, and Hitler rolled into one photo-critic.

Judging must be done—but—it is hazardous. Judges are subject to many little idiosyncrasies—they sometimes even become psychopathic. Because of the ominous nature of the ailments common to judges of photographs, and because one can best avoid those pitfalls which he sees and



"Illusion"

Kizaemon Kimura

Naniwa Shashin Club

recognizes, we feel duty bound to point out some of the more prevalent weaknesses and their symptoms.

★ ★ ★ ★ ★

Old World Nostalgia

Judges who suffer from this most common of all ailments are easily spotted by their pronounced propensity for pictures depicting Swiss mountain climbers, little girls in quaint peasant costumes and pig-tails, helmeted

soldiers marching in the rain or the sun (have you even seen any American soldiers in our salons?), Italian and Dutch canal scenes, windmills, cypress trees, and very awkward looking bows and sterns of very awkward looking boats, usually shown idle at a rotting wharf, and crumbling castles. If you doubt the accuracy of this diagnosis look through almost any of the photographic annuals and salons. Judges with this complex have no doubt seen landscapes by Constable, Gainsborough, Diaz, and Ruysdael and without looking any farther assumed that if they were good enough to be hung on the walls of an art museum, they *must* be good. The fact that their chief value lies in their "collection value" and for their historical significance to *painting*, seems to have escaped them. And our ART-yearning critics accept them as models for *photographs*.

This nostalgic condition is sometimes hereditary and sometimes synthetic. It frequently manifests itself in other ways such as wistful talk of the fatherland, title-seeking, and coronation craze. Anyone who goes abroad and comes back with a batch of old world negatives is a 1 to 1 shot to be a winer, this ailment being as common as it is.

Locale Difficile

This is a particularly virulent disease with some critics and judges. They just can't reject anything that looks as if it had been difficult to take. The result is that we see in many photographic collections pictures of stalagmites and stalactites in caves where the photographer in his own words "had to crawl on his belly to get them." We see men perched precariously on the sides of glaciers, airplane views from one hundred feet up, and very much blurred and over-contrasty night club scenes. This ailment grew up coincident with the miniature camera and may in the future bother us only in sporadic epidemic form.

Old Master-philia

When one is afflicted with this weakness he likes and accepts only those prints that resemble oil paintings, etchings, or lithographs. Portraits must be done in the grand manner, preferably with Rembrandt lighting and broad effects. Landscapes must be completely devoid of bill-boards, telephone poles, or anything with an unpicturesque touch. Still lifes *must* have a bunch of grapes in them and a ground cloth wrinkled in the studied carelessness manner; an old vase or jug is almost a prerequisite. The key must be low and sombre and the definition poor. The more complicated and tedious the process by which these prints are made the better are their chances in the hands of judges suffering from old master-philia. Those who find clean photographic technique tiresome are easy victims to this scourge.

Composition-mania

This ailment afflicts those judges who think the "laws of composition" are fundamental laws of nature and who are ready and willing to refute the idea that the laws may be man made, subject to centuries of unconscious conditioning. Pictures lacking in at least one Hogarth S-curve, a dominating triangle, a center of interest with diverging lines, or some overlapping circles are doomed in the hands of judges with this mania. Repetition, rhythm, emphasis on texture or pattern, these effects are taboo. And of course they believe that a good thing can be overdone, so that whereas one triangle is acceptable to them, fifteen triangles is bad.



"Cuttle Fish"

Ichio Kobayashi

Naniwa Shashin Club

Sentimentissimus

Now here is an affliction that *is* an affliction. Judges suffering from this one are easy prey for pictures of babies (in almost any pose or condition), kittens (especially when doing something cute), grey bearded patriarchs or wrinkled old ladies, back home on the farm scenes, and the family hearths. A barefooted boy with a willow branch for a fishing pole (bamboo or steel would just *shatter* the mood) is a subject that is always good and a winsome young lass in a field of daisies positively wows them. This particular malady has much in it that is akin to both old world nostalgia and old master-*philia* and is frequently concomitant with them.

Subject Matter Traditionalism

Here again we find an overlapping of symptoms. This ailment causes judges to accept with practically no resistance such subjects as lily-pads, bowls of fruit, ends of boats (and even more so when there are reflections!), gnarled pine trees, muddy roads running down between rows of poplars or willow trees, winding streams amid fresh snow, and wagon wheels. You will see some of the characteristics of other weaknesses cropping out here. Many judges feel that if they can accept eight or ten prints of each of the above subjects and throw in a couple of well-retouched nudes and a score of good old sentimentalities, they'll have a salon.

Draftsman Empathy

Judges who as youths had a yearning to draw but who later found out that they lacked the muscular coordination to do so successfully, offer no resistance to this disease at all. When they make photographs (for want of a better word) they feel a deep-seated and overwhelming urge to draw, and after all it *is* easy to draw on top of a picture—even Junior knows that! And so they make pictures from very much revised negatives, paper negatives, bromoils and all the rest of the manipulative processes. It is only natural that in self defense they should accept similar works of others. The thwarted draftsman is a very liberal minded photographer.

There are many other minor ailments such as *City Editor Complex* (pictures must have shock power and news value), *Neophobia* (fear of anything too new in subject matter, and *Wanderlust* (appreciation for anything not common to his own environment) but we believe enough have been offered to put you on your guard.

* * * * *

It is only fair to warn you that if you ever do succeed in immunizing yourself against all the above mentioned weaknesses, and the fact becomes generally known, you will never be asked to serve as a judge. But, for the sake of discussion, let's assume that by some slip-up you do get asked and you accept. Then you will be in a predicament! When you have finished rejecting all the prints that played up to the weaknesses you had overcome, you would probably find, much to your embarrassment, that there were no prints left to accept. You would then be forced into one or the other of two alternatives. First, you could reject solely on the basis of poor print quality, poor taste (your conception of "taste" is as good as the next fellow's), and general messyness. Or second, you could throw all the commonly accepted criteria to the winds and admit frankly you were accepting those prints that appealed to your prejudices. Both methods have the satisfying flavor of honesty.

Cinema Section

Edited by

William A. Palmer

Fades And Dissolves

MOVIE makers cannot get very deeply into their hobby before they feel the need for a familiarity with various special effects that are seen on the theatrical screen. Such effects as fades, dissolves, and wipes are to be seen in almost every professional photoplay and they come in dozen lots in the advertising "trailers" which herald the coming of a new show. So the owner of the most modest movie outfit, although he may never get around to making such effects, likes to be able to call them by name and confuse non-movie making friends with the intricacies of how they are made.

The more advanced cine worker has a real practical reason for getting acquainted with various special effects because these are the punctuation marks of the movies and their use gives that smooth touch of showmanship that takes the "amateurishness" out of amateur work. As punctuation marks, the effects form the transitions between the sequences, setting them off with better clarity and meaning.

There are quite a number of these different effects or transitions and while no hard and fast rules govern their use, certain effects are more useful for special purposes and none should be used indiscriminately.

Fades

The fade-in or fade-out is the most common and at the same time the most useful cinema punctuation mark. As the term implies, the fades are effects in which the scene slowly appears from darkness to attain its full brilliance when the effect is complete, or the reverse procedure in which the brilliance of a scene dies away into blackness. Compared to the punctuation marks of writing, the fade-out is like the period, marking a definite lapse of time, shift of scene or the finish of a complete thought after which a fade-in presents a new idea. Or to make another comparison in a different field, the fade-out is like the drawing of the curtain at the end of an act of a stage play, marking the end of one episode; and the fade-in is like the opening of the curtain at the start of the next act. Since this is the case, it would be definitely improper technique to fade-out and fade-in between two scenes that were closely associated as to time or location. In a professional photoplay a fade-in almost invariably opens the first scene of the picture and likewise a fade-out closes the final scene just before "The End" is flashed on the screen.

How to make fades: Fades can be made by the use of several different means such as dissolving shutters, fading glasses, lens irises, and chemical dyes. The dissolving shutter is the easiest device to use and makes the most perfect effect but must be built into the camera. Only one camera, the Cine Kodak Special, is regularly supplied with one of these shutters although some workers have had the device built into other cameras at rather great expense. The dissolving shutter

has the ability to vary the angular opening and thus the exposure on the film while the camera is operating. It is manipulated by a lever which can be easily moved to fade a scene in or out at any rate of speed.

The owner of an ordinary 16mm or 8mm camera can also make good fades by the use of one of the other means. Perhaps the easiest to use of these is the fading glass or optical "wedge." This is a strip of glass six or seven inches long which has been prepared to be clear at one end and then gradually become darker throughout its length until it is completely opaque at the other end. A fade-in is made with this device by starting the camera holding the opaque end over the lens and then slowly moving it across the lens to the clear end. The fade-out is made in the reverse manner, starting at the clear end of the glass and moving it until the opaque end covers the lens. A fading glass can be purchased for a very reasonable sum or one can be made at home with very little trouble. One method of making a fading glass is to smoke a piece of glass with a graduated deposit of soot. A piece of glass of good quality, about one inch by seven inches, preferably thin plate glass, is held above a lighted candle to deposit the soot. Starting at one end, the glass should be held in position until a very dense deposit is made and then it is moved slowly toward the clear end to taper the deposit off. No soot should be allowed to accumulate within about two inches of the clear end and the glass must be held far enough from the flame so that it will not be cracked by the heat. If the first trial at smoking the glass does not result in a good even fade, the glass can easily be cleaned and the operation repeated. When a good fade has been obtained it should be covered with another piece of glass the same size and bound with lantern slide tape to keep the soot from being smudged.

Another successful method of making a fading glass is by the simple means of fogging a process plate and developing it in an ordinary clean working developer such as the D 11 Eastman formula. Several strips can be cut from a 5x7 process plate with the aid of a glass cutter. The cutting operation can be done in the bright red safelight used for bromide papers. The fogging is done by flashing a small bare flashlight bulb held about a quarter inch above one end of the glass strip. The bulb, connected to a single cell battery need only be flashed for about a second and then the strip from the process plate can be developed to form an excellent fade. The development must not be carried too far in order that the clear end remain perfectly clear. A final coating of lantern slide varnish should be given the emulsion to protect it from damage.

A fairly presentable fade-out or fade-in can be made under certain conditions by manipulating the iris diaphragm of the lens. When working under light conditions that are rather poor so that the proper lens setting is $f\ 3.5$ or larger, the lens may be stopped down to the lowest aperture (usually $f\ 16$) and the scene will be faded almost completely. At the very end of the manipulation, one should place a finger in front of the lens to make sure the scene is completely blocked out.

Fades can be put into the film, after it has been processed, by the use of a dye which will blacken the film more or less in proportion to the time that the film is immersed in the solution. The dye can be purchased under the name Fotofade and merely dissolved in water. It is most convenient to use if the solution is placed in a tall measuring graduate like those commonly used in chemical laboratories. The end of a film scene can then be lowered into the solution gradually. The dye will make the film practically opaque within about two minutes immersion, so the fade will take that long to complete. A good way

to assure a smooth fade of the proper length is to lower the film into the solution a frame at a time, allowing the film to come to rest with the surface of the solution at the frame line between pictures. At the start of the fade, one should allow each frame to be held for about five seconds until the next one is lowered into the solution. This can be continued for about two inches of film when the time for pausing between frames should be cut to four seconds which then can be continued for another two inches before speeding up the immersion process so each frame has a three second head start on the succeeding one. This process can be continued until there is just one second allowed for each frame and eight or ten inches have been immersed. Then the film should be quickly withdrawn from the dye bath and given a quick rinse in clear water to wash off excess dye. The film can then be hung up to dry.

Lap Dissolves

Lap dissolves are made by the same devices that produce fades, being a combination of a fade-out and a fade-in which overlap, causing one scene to blend into another. The use of the lap dissolve in proper motion picture technique is quite different, however, from the fade-in or fade-out. It is an entirely different punctuation mark and is used to show very close association between two scenes such as simultaneous action going on at two different locations. It does not usually mark a pause in the continuity nor a lapse of time as does the fade-out fade-in combination. It is a punctuation mark and therefore should not be thrown into a sequence for no better reason than the fact that the photographer likes to show that he can make a lap dissolve. In other words, dissolving from a long shot of an object to a close up of the same object is just as illogical as sprinkling a bunch of commas in a sentence when they are not needed to clarify the meaning. A dissolve is one of the neatest of all the effects and should not be spoiled by too frequent use when it has no meaning. A dissolve may be used in special cases when there is a lapse of time portrayed and when a special comparison is desired. For example, a scene of the start of construction of a building very properly could be dissolved into a scene of the completed job. The dissolve can also be used occasionally to denote a specific lapse of time such as a barren tree in winter dissolving to the same or a similar tree covered with blossoms. There would be no question in this case that winter has given way to spring.

How to make a lap dissolve: The lap dissolve is made with the same devices that are used to produce fades but in addition it must be possible to wind back the film in the camera. The procedure for making the dissolve is to photograph the first scene and make a fade-out at the end, stopping the camera as soon as the fade is complete. Then with the shutter closed or cap over the lens to prevent fogging the film, the camera is reversed to wind back the film for the length of the fade-out. The next scene is then photographed with a fade-in being made over the same stretch of film that the fade-out occupies and the result is a blending or mixing of the two scenes, one into the other. Most cameras which are equipped with a hand crank attachment can be wound back the foot or two required for the dissolve and many cameras not possessing a hand crank can be fitted with them on special order. A feasible operation, when making a dissolve with a camera not equipped with a wind-back crank, is to photograph the first scene and perform the fade-out. Then the camera can be taken to a dark room and the film unthreaded, shifted back a couple of feet (the length of the fade-out), and rethreaded ready for the fade-in of the next scene. This process is a bit tedious but if one is careful, he can get very good results.

Iris Effects

Effects known as iris transitions or vignettes can be used to advantage by the amateur cine producer. A complete transition consists of two opposite effects, an iris-out and an iris-in as in the case of fades. The effect of the iris-out as seen on the screen is that a circular vignette closes in from the edges of the picture, becoming smaller and smaller until it closes entirely in the center shutting out the scene completely. The iris-in is, of course, just the opposite. Starting from a dark screen a small circle of the scene appears in the center and grows larger until the circular vignette draws entirely out of the way at the edges. In the days of professional silent photoplays this effect was quite popular, but lately it has not been used very much. The reason for its little use nowadays is probably because it draws too much attention to itself as a mechanical trick. Its application in motion picture technique is similar to a fade since it marks a definite conclusion of one sequence. Instead of being analogous to the period in writing, as is the fade-out, the iris-out is more like an exclamation mark. As such it has a very good use in the wind up of a comedy sequence in which a "blackout" situation occurs. That is, the finale of a build-up to a comedy situation develops suddenly and perhaps violently to end the sequence. A fade-out at such a point would be too leisurely and prolong the comedy action so as to lose its effect. Yet it is necessary to have some device to indicate the closing of the episode. The iris-out performs this function perfectly for it can start as soon as the final action begins, giving the spectator an unobtrusive cue that the sequence is ending and also allowing him to continue to view the important action in the center of the scene until the very last. An example of such a surprise ending would be a scene like the following: A very pompous and objectionable politician is appearing at a public function. A little kid on the side lines with a ripe tomato unwinds, scoring a direct hit. An iris-out will end the scene promptly and still keep the startled and decorated face of the politician in view until the last. In many cases, particularly in the case of scenic pictures, the iris-in or iris-out is a perfectly acceptable substitute for a fade-in or fade-out.

How to make iris effects: The iris-in or iris-out is made by a device which fits in front of the lens and is known as a vignette. It consists of a funnel shaped tube that screws onto the lens mount and has an iris diaphragm at its outer end which is about two and a half inches from the lens. The iris diaphragm is similar to those fitted in most lenses except that it is made so that it can be closed completely. It is manipulated by turning a ring which is connected to the iris mechanism. Some models also have a handle attached to the ring to make the manipulation easier. The device can be purchased at any camera store and is a very good addition to one's movie kit. An iris vignette can also be successfully home made from a discarded still camera shutter. The diaphragm of the old camera shutter should be about an inch and a quarter in diameter at its maximum opening and should be capable of being closed to a rather small opening. A small piece of metal can then be cemented or soldered to one of the iris leaves in such a position as to cover the final small hole when the iris is completely closed. The diaphragm can then be mounted about two and a half inches from the lens by means of a special mount or it can be fitted on the end of one of several combination lens shade and matte boxes that are on the market.

Next month a description of the more spectacular types of effects will be given along with suggestions as to their proper use in cinema technique. These include wipes, slides, swipes, and zooms.



"Boo-o-o"

*Don Loving
Evanston, Ill.*

Advanced Medal Print

■ This is just about as perfectly an executed picture as one could wish for. By that we mean that the idea is clearly realized and is presented in a delightfully graceful and charming fashion. Expression and pose are just right and the spacing has been adjusted with great skill. It is rather a nice problem in composition to suitably control the space on the right. This space is necessary for without it the picture will look crowded, and will be too tall and narrow to have a pleasing format. Mr. Loving's device of controlling this space by presenting it in shadow is a most effective one. It retains all the advantages of the space in establishing compositional balance and pleasing print dimensions and yet effectively prevents the eye's wandering off to the left as it would surely do if the shading-in had not been carried out. The shading on the right was probably obtained by dodging in during projection printing, but it is important to observe that it does not conflict with the lighting. If the main light source had been to the left instead of to the

(Continued on page 143)

*"Elegy"*

H. A. Selby
Denver, Colo.

■ For us, at least, this is one of the most effective and emotionally satisfying landscapes which have appeared in these pages for some time. It is printed in a warm black tone which fits in beautifully with the mood. Perhaps the most useful point of discussion concerns the placing of the cloud form. We have two things to consider. First the placing of the cloud form in relation to the picture space as a whole and second the placing of it with relation to the dark mass of the trees. If we imagine this picture without the trees we can see that the cloud is well placed

so far as the picture space as a whole is concerned. When we take the mass of the trees into account however, we feel that things might be just a little better if the cloud were about one inch to the left, in the 11 x 14" print. This would cause a slight attenuation of the relation between the cloud and the mass of trees, bringing the two into better balance with each other and with the picture space as a whole. Trimming does not help here, for we need the space on the left to balance, or justify the dark mass of the trees.

Data: 11 x 14" bromide print.

Third Award

Advanced Class

*"Dance Somber"*

A. B. De La Vergne
Denver, Colo.

■ All will agree that this pose is an unusually successful one. The contours are graceful, the volumes of the figure nicely distributed, while the lighting loses and finds the outline in most attractive fashion. There is only one part of the pose as we see it that is somewhat disappointing. We refer to the hands. These are presented in a rather confused and indefinite fashion, tempting the observer to stick his nose against the print in order to find out just what is taking place there. Such a situation is always a detriment for when the mind is caught and held by unimportant detail it is no longer free to enjoy the picture as a whole. We do not mean that the hands should be shown in full detail, the lighting on them must, of course, be in keeping with that in the rest of the picture. Rather we mean that the contour and detail of the hands should be simplified and the lighting adjusted so that they are shown with a clarity equal to that found in the figure. It is well to appreciate that the hands are the

terminating point for the sweeping line set up by the figure as a whole. That fact makes them considerably more important than they would otherwise be.

Data: 5 x 7" View Camera; F:4.5 Velostigmat lens; Defender F. G. Pan., in DK-76; 11 x 14" print on Defender Veltura DL, in D-72.

Fourth Award

Advanced Class

Admittedly this is a distinctly unorthodox composition. We are repeatedly told that we must keep strong highlights out of the corners of our pictures, because in such position they catch the eye and lead it out of the picture. But there is an old saying to the effect that it is the exceptions which make the rule, and in matters of composition we are continually coming upon exceptions. What is true is that nothing can lead the eye out of the picture when the other elements of the picture are strong enough to prevent that. Therefore when our central elements are unusually strong (the statue and man in this case) we can permit a corresponding increase in any secondary material (the skylight) and still maintain a balance of forces that will keep the eye within the picture frame. That, we think, is what occurs in this case. Furthermore there is a logical reason for including the skylight; it is an extremely important part of the studio. We think a black border is called for here for that would help to control those points where extreme highlights cut the edge of the print.

Data: 6 x 6 cm. Rolleiflex; 1/10th sec. at F:3.5 by daylight illumination only; E. K. Panatomic film in D-76d; 11 x 14" print on E. K. Bromesco.



"An Artist's Studio" Vlado Cizelj
Zagreb, Jugoslavia

Fifth Award

Advanced Class

We suspect that we have already written more than enough about the difference between a photograph that is merely a likeness, a map of the face, and one which reveals the personality or character of the subject. This picture is primarily noteworthy for that quality. We can readily see the quick mind and the sunny out-look on life which this portrait brings out so clearly. Of course, without knowing the subject we cannot say how typical those qualities are. The selecting of an expression that is most typical of the subject calls for a high degree of judgment and no little insight on the part of the photographer. The toning of the print is not as successful as it might be since there is an area about the mouth where the color varies somewhat.

Data: Leica model F; 50 mm. Elmar 1/4 sec., at F:3.5, on Fine Grain Plenachrome, in Edwal 20; with two #1 photofloods and one #3 photoflood; 11 x 14" print on Agfa Brovira Royal in Amidol; toned in Potassium permanganate-Sulphide. 11 x 14" prints on 16 x 20" mounts will be supplied at the price of \$10.00, upon application to Camera Craft.



"Is That So?" Robert Mishell
Beverly Hills, Calif.



"The Alley"

Trevor T. White

Taft, California

Amateur Medal Print

■ This picture is interesting because of the simplicity of the arrangement and the pleasing distribution of light and shade throughout the picture space. There are three small ways in which the picture might have been slightly improved. We would prefer to see the male figure placed slightly further into the picture in order to have a greater variation between the figures. We would dodge in the upper part of the print slightly so that the eye will not be drawn upward too rapidly. This is a true rendition of the lighting, no doubt, but as things are there is too much danger of the eye's leaving the picture at the top. Judicious retouching of the outline of the woman's figure would make the movement that is now evident much less noticeable.

Data: Rolleicord; Triotar F:4.5; Agfa Finopan in D-76; 11 x 14" print on E. K. Vitava, in M.Q.

Second Award

Amateur Class

■ The thing that intrigues us most about this picture is the extremely beautiful way in which the cloud forms echo the movement in the sail. That is, a graceful upward moving curve from left to right. It is a rare thing indeed to find cloud forms which fit a picture so perfectly as these do, and believe it or not, they are not printed in. There is a very fine water texture in the print and the two subsidiary sails are nicely placed.

Data: Vollenda; F:3.5 Schneider lens; E. K. Panatomic film in DK-76; light red filter; 8 x 10" print on Agfa Brovira Kashmir, in D-72.



"A Sail"

J. L. Clyburn
Oakland, Calif.

Third Award

Amateur Class

■ Certainly all will agree that this picture has tremendous impact and carrying power. It would take a very sleepy eye indeed to pass this print by without a second look. The photographer has also been most successful in bringing out the weather-beaten qualities in the face. This is realism with a vengeance and there is no suggestion here that this fellow may be simply dressed up for the part, as is so often the case with character portraits.

The three spots of sky, on either side of the head and in the upper left corner, are rather too powerful and give the picture a jumpiness that is not desirable. Aside from lowering the tone of these by dodging in there is little that can be done however.

Data: 9 x 12 cm. Voigtlander Avus; 1/50th sec. at F:8, on Agfa Superpan Portrait, in D-76; 11 x 14" print on Agfa Brovira Kashmir in D-52.



"Clyde"

Edward Canby
Dayton, Ohio

Fourth Award

Amateur Class



"Lowlands"

*Paul Kozak, Jr.
South Euclid, Ohio*

■ Landscapes depend for their success primarily upon the establishing of a mood. For only when that is done can the observer obtain an emotional reaction to the picture. Mr. Kozak has been quite successful in that respect. Notice how nicely the cloud form fits into the picture. The peak of the cloud acts as a balancing accent point in relation to the primary accent point formed by the dark-toned boat in the foreground. Even as things are there is a most attractive glow of light over the water, but we think that if a bit more luminous print quality could be

obtained that this effect could be made more pronounced.

Data: Contax; 50 mm. lens; 1/25th sec. at F:5.6, on Agfa Finopan in Edwal 20; green filter; 11 x 14" print on Veltura, in Amidol.

Fifth Award Amateur Class



"Tippy"

*G. Macintyre
Toronto, Ont., Canada*

■ We think that Mr. Macintyre has been quite right in trimming this picture in close. The expression is the whole thing here anyway. If more of the cat were shown the lack of depth of focus would quickly become disturbing. Also, because the picture is taken with the camera fairly close, there would no doubt be a quite noticeable foreshortening of the cat's body, and that would also be annoying if shown. Notice that this intimate effect is obtained by placing the camera quite low, practically on the floor, in fact. A higher camera position would not give us nearly as pleasing a view of the head.

Data: 6 x 6 cm. Voigtlander Superb; 75 mm. Heliar lens; 1/4th sec. at F:3.5, outdoors in subdued light; on Agfa Plenachrome in Glycin; 5½ x 6½" print on Agfa Brovira, in Agfa 130.

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: H. A. Selby and A. B. De La Vergne, for the Denver Lensmen; Don Loving for the Fort Dearborn Camera Club; and Vlado Cizelj for the Fotoklub Zagreb.

The following won prizes for their clubs in the Amateur Class: Paul Kozak, Jr., for the Cleveland Photographic Society Miniature Group; J. L. Clyburn, for the Miniature Camera Club of Oakland; and Trevor T. White, for the Taft Camera Club.

The following prize winners have no club affiliations: Robert Mishell, Edward Canby and G. Macintyre.

Contributing Clubs

Amherst Camera Club (Mass.)	Guild Camera Club (Saranac Lake, N.Y.)
California Camera Club (San Francisco)	Lancaster Camera Club (Pa.)
Camera Clique (St. Louis, Mo.)	Lexington Camera Club (Ky.)
Camera Club of Richmond (Va.)	Marin Camera Club (San Rafael, Calif.)
Cleveland Camera Guild (Ohio)	Miniature Camera Club of Oakland (Calif.)
Cleveland Photographic Society Miniature Group (Ohio)	Niagara Falls Camera Club (N.Y.)
Corcoran Camera Club (Calif.)	Pack Rats (Pasadena, Calif.)
Denver Lensmen (Colo.)	Photographic Society of San Francisco
Ellensburg Camera Club (Wash.)	Pictorial Photographers of America
E.P.I.C. Pool of San Francisco	Reading Camera Club (Pa.)
Florida Camera Club (Tampa, Fla.)	Riverside Pictorialists (Calif.)
Fort Dearborn Camera Club	Saskatoon Camera Club (Canada)
Fotocraft (Bangor, Maine)	Sierra Camera Club (Sacramento, Calif.)
Fotoklub Ljubljana (Yugoslavia)	St. Louis Camera Club (Mo.)
Fotoklub Zagreb (Yugoslavia)	Taft Camera Club (Calif.)
Fresno Camera Club (Calif.)	Twin City Miniature Camera Club (Minneapolis, Minn.)

STANDING OF CLUBS

Large Clubs Advanced Class		Large Clubs Amateur Class	
Fort Dearborn Camera Club.....	10	Camera Club of Richmond.....	5
Fotoklub Zagreb	7	Miniature Camera Club of Oakland.....	4
Fotoklub Ljubljana	6	Cleveland Photographic Society.....	1
Miniature Camera Club of New York....	1		
Small Clubs Advanced Class		Small Clubs Amateur Class	
Denver Lensmen	11	Taft Camera Club.....	9
Pack Rats	9	Lancaster Camera Club.....	5
		Riverside Pictorialists	4
		Cleveland Photographic Society Minia- ture Group	2
		Norfolk Photographic Club.....	1

(Continued from page 137)

right of the camera the shading would then appear arbitrary, would be in conflict with the lighting, and would consequently have been disturbing. As things are however the shadow could easily be cast by the other side of the doorway through which the child is seen. It doesn't matter how an effect such as this is obtained so long as it does not create a false note in the picture.

Data: 5 x 7" camera; 8" Turner-Reich lens; 1/10th sec., at F:6.8, on Defender X.F. Ortho, in DK-76; 8 x 10" print on Defender Opal T, in D-72; local dodging.

Club Notes

Ralph Young

It is with a deep feeling of personal loss that Camera Craft reports the passing of Ralph Young, prominent illustrative photographer of San Francisco. Death occurred suddenly on the evening of February 6th. He is survived by his widow Mrs. Gladys C. Young and two children, Noel, 15, and Mary, 12.

Born in Iowa 46 years ago, Ralph Young has resided in San Francisco since 1920. He served in the World War as a member of the aerial photographic service. He has continually been among the most active in organizational work in his profession and has been repeatedly called upon to lecture and demonstrate at conventions and at the meetings of amateur clubs.

Ralph Young loved his fellow men and was loved by them.

Schedule For the Fourth International Leica Exhibit

The Fourth International Leica Exhibit is now on tour throughout the U. S., and the current schedule is listed below. Subsequent dates will be published in later issues of CAMERA CRAFT. The show consists of 710 prints, selected from more than 2,000 submitted by Leica owners:

Indianapolis, Ind.—Feb. 23rd to 26th,
Hotel Lincoln, Parlor A, Mezzanine Floor.

St. Louis, Mo.—March 3rd to 6th, Hotel Statler, Room 106.

Kansas City, Mo.—March 9th to 12th, Hotel Mukelbach, Cafe Trianon.

Tulsa, Okla.—March 16th to 20th—Mayo Hotel, Junior Ballroom.

Dallas, Texas—March 23rd to 26th—Adolphus Hotel, Parlors E and P.

Oklahoma City, Okla.—March 29th to April 1st—Oklahoma Biltmore Hotel, West Lounge.

Exhibition of Photography By Ansel Adams

Photographers in the Bay Region and others visiting this area, will be pleased to learn of Mr. Ansel Adams' exhibition of photography. It is being held at the University Art Gallery, University of

California, Berkeley, from February 5th to March 4th. Exhibition hours are 10 to 1 and 2 to 4 daily. The exhibition includes some very interesting photo-mural projects made in collaboration with Eldridge T. Spencer, Architect.

Graphic Press Cut Film Holders Now Big Photographic Exposition To Be Held in New York

The opening of the First International Exposition of Photography, in April of this year, will bring one more acknowledgment of our industry's growth, to major importance. The Exposition will be held at the Grand Central Palace, during the week of April 18th, and the event is planned on a scale paralleling the annual Automobile Show. More than a dozen national and regional organizations concerned with photography as an art, a hobby or business are listed as sponsors, and the advisory committee includes leading figures in every branch of the photographic field.

The Show is planned to include every branch of photographic endeavor and some of the major features are: 1. An international exhibition of photographs, under the direction of Willard D. Morgan. 2. A spectacular photographic stage show, designed and arranged to offer a continual source of picture possibilities, to those attending the Exposition with cameras. 3. Many important lectures and demonstrations. 4. Special exhibitions for manufacturers and dealers who will show the latest in photographic equipment and supplies.

This Exposition offers tremendous possibilities for the betterment of photography and we will report on further details in these pages, as they are available.

Western Clubs Top Print Interchange for 1937

The Photographic Society of America has just announced the standing of clubs in the 1937 Print Interchange and, as a western publisher, we cannot help but note the record made by Pacific Coast Clubs. A clean sweep of the three first places, with two second places for good measure.

In the Ten Print Class: Oregon Camera

Club, Portland, Ore., First; Taft Camera Club, Taft, Calif., Second. In the Twenty Print Class: San Jose Camera Club, of San Jose, Calif., First. In the Thirty Print Class: Los Angeles Camera Club, Los Angeles, Calif., First; Photographic Society of San Francisco, San Francisco, Calif., Second.

Our congratulations to these clubs whose efforts are doing so much for Western photography.

Pictorial Photographers of America Will Open 5th International Salon in April

Having met with great success in their Salon last spring the Pictorial Photographers of America, in New York City, are holding their 5th International Salon, at the American Museum of Natural History, this April. About 12,000 people saw the show last year and attributed a large part of the unusual interest and high standards to the hanging of varied types of photography. The largest section was Pictorial, and there were splendid showings in the Modern, Professional, Press, and Natural History sections. This year's show will be hung in the same manner. Any one contributor, for one entry (\$1.00), can send four prints to each of as many sections as he wishes.

Prints should be sent to the Pictorial Photographers of America, c/o American Museum of Natural History, Columbus Ave. and 77th St., New York City. Entry slips and fees should be sent to E. M. Weil, Sec.-Treas., 100 Gold St., New York City.

Third Annual Snow Trip, Miniature Camera Club of Oakland

The Miniature Camera Club of Oakland, California, is an organization more than abreast of the times. With skiing now a national pastime, this enterprising group will enjoy their Third Annual Snow Trip, February 25th to 27th.

Members and friends will leave Oakland, Calif., on Friday evening, February 25th, at six o'clock and return Sunday evening, February 27th. For two days, they will enjoy the snow sports and picture possibilities of Mt. Lassen National Park and to say that these are many and fine is being too conservative.

Transportation to and from the resort will be by bus, thus relieving the members

of the cares and fatigue of driving. Cost, including round trip by bus, accommodations and meals, will be only \$10.65 per member, an amazingly low price for such a splendid weekend.

For further details write Edward H. Towler, Secretary, 1213 Central Bank Bldg., Oakland, Calif.

Du Pont Picture Exhibit

A small collection of twenty-four exhibition prints mounted for club room display, has been made available to camera clubs and societies by the Du Pont Film Manufacturing Corporation.

Interested organizations should direct their inquiries for available exhibition dates to the Miniature Film Department, Du Pont Film Manufacturing Corporation, Inc., 9 Rockefeller Plaza, New York City, attention of R. J. Belknap.

Third Rolleicord-Rolleiflex Salon

The Third Rollei-Show is scheduled to open May 2nd at Rockefeller Center. Exhibitors from all parts of the nation are expected to participate. All entries must be in by April 16th.

The Salon is being held primarily to stimulate interest in advanced photography among users of the Rolleicord, Rolleiflex, Heidoscope and Rolleidoscope Cameras, (made by Franke & Heidecke and distributed in the U.S.A. by Burleigh Brooks, Inc.).

Prints submitted must be at least 7x7 inches and mounted in such a way that the overall size does not exceed 16x20 inches. No hand-painted entries will be considered.

Entries should be sent to Burleigh Brooks, Inc., 127 West 42nd Street, New York City. Name and address of contestant must be pasted or legibly inscribed on back of each mount and sufficient return postage must be enclosed. Data on exposure and paper used should also be given. There is no entry charge. Any user of the above cameras who is a resident of the United States is eligible and may submit as many as four prints.

The judges of the contest will be three of the country's best known authorities—Adolf Fassbender, F.R.P.S., Margaret Bourke-White and Herbert C. McKay, F.R.P.S.

There will be no charge to those visiting the exhibit and everyone interested in fine photography is cordially invited to attend. The Salon will be divided into two groups. The first will be devoted entirely to pictorial prints—including portraits, landscapes, winter scenes, child pictures, and others of an artistic nature. The second group will include news, candid, technical, fashion and other prints of a commercial or non-pictorial type.

A total of \$450.00, in 31 cash prizes, will be awarded as follows:

1 First Prize, Pictorial Group.....	\$ 75
1 First Prize, News and Technical Group	75
2 Second Prizes of \$50 each*.....	100
2 Third Prizes of \$25 each*.....	50
5 Fourth Prizes of \$10 each*.....	50
20 Fifth Prizes of \$5 each*.....	100
—	—
31 Cash Prizes in all, totaling.....	\$450

Twenty-five Honorable Mention Certificates* will also be awarded. These may be awarded to pictures in either group at the discretion of the judges.

California Camera Club School of Photography

The California Camera Club, of San Francisco, Calif., announce that the spring course of their School of Photography will open Monday evening, March 16th, and continue for eight weeks. There will be two classes, one for beginners and one for advanced workers, under the direction of C. Stanton Loeber, the club President. Attendance at previous classes has been large and enthusiastic and the students have made a distinct improvement in their work, as shown by the competitions held at the completion of the courses. For further details write, the California Camera Club, 45 Polk St., San Francisco, Calif.

Olean Miniature Camera Club

The Olean Miniature Camera Club, of Olean, N. Y., will hold its First Annual Exhibition, in the Olean Public Library, during the week of March 7 to 12th. More than 200 prints will be on view representing the work of club members and that of miniature camera fans in nearby communities. All those interested are cordially invited to attend.

Notes and Comments

Arthur B. Cornish

It is with deep regret we note the passing of Arthur B. Cornish, whose association with the Eastman Kodak Company numbers more than twenty-five years. His many friends, throughout the nation, will join us in expressing our heart-felt sympathy to his wife, Evelyn Kane Cornish.

Camera-Mart Specials

The Camera-Mart, Inc., of 110 West 40th St., New York City, are offering an unusual list of bargains in photographic equipment. Among these bargains are: 25 feet 35mm. Super Pan Film at \$1.10; a Rolleiflex 6 x 6, F3.8 at \$67.50; and many others. Trade-ins are gladly accepted. Write the Camera-Mart, Inc., at the above address for a complete list of their bargain offers.

By Agfa Ansco

New Retouching Medium Introduced

A new retouching medium offering many advantages has just been announced by Agfa Ansco Corporation of Binghamton, New York. In addition to the desirable properties of solutions previously available, this new product is simple and trouble-free in application.

The new Agfa Retouching Medium is a rapid-drying solution which resists the usual tendency of retouching solutions to stain or spot negatives. Very mild rubbing upon application is sufficient to prevent the formation of rings. Negatives treated with the retouching fluid have a heavy "tooth" and work smoothly without showing a ragged edge to pencil marks. The new Agfa Retouching Medium is available in 2, 4, 8 and 16 ounce bottles.

LOOK IN OUR NEXT ISSUE FOR DETAILS OF A CONVENTION TO BE HELD IN SACRAMENTO, CALIFORNIA, APRIL 23 AND 24, OR WRITE EARL M. CILLY, BOX 1111, MARYSVILLE, CALIF.

Ensign Double-8 Camera

The Ensign Double-8 is a sturdily built miniature camera that will fit easily into any pocket. It measures only $3\frac{5}{8} \times 2\frac{3}{8} \times 1\frac{5}{16}$ inches and is of all-metal construction, finished in ripple enamel and covered with hard wearing leather cloth. The Ensign Double-8 is fitted with an f:4.5 Ensar anastigmat lens, with speeds of $1/25$ th to $1/100$ th second, time and bulb. It takes 16 pictures size $1\frac{1}{4} \times 1\frac{3}{8}$ inches, on V.P. size 27 film. A depth of focus scale is fitted to the back of the camera and it is also equipped with a direct optical view-finder. The Ensign Double-8 Camera, in a morocco leather slip case, is priced at only \$22.50. Complete details may be had from the Chess-United Co., Mohawk Bldg., New York City.

Correction

In our February issue, we reviewed the Federal Photo Enlarger, which is sold at the amazingly low price of \$9.95 (\$10.75 west of the Mississippi) although it incorporates the features of expensive equipment. The address of the manufacturer was given as Chicago, Ill. The correct address is Federal Stamping & Engineering Corp., 30 Lafayette St., Brooklyn, N.Y. Complete details on the Federal Photo Enlarger may be had by writing the above address or you may examine it at your local dealer's.

New Mimosa Catalog

Photographic dealers will be interested to learn that The Mimosa American Corporation, distributors of the Perplex Developing Tank, the Leudi Exposure Meter, Panchroma Film, and Mimosa Papers, are now supplying their new catalog, upon request. The new catalog lists the most important Mimosa products and offers those dealers, not already acquainted with this fine line, a convenient means of acquiring this knowledge. Write the Mimosa American Corporation, 485 Fifth Ave., New York, N.Y., for your copy today.

Free Booklet Gives Enlarging Paper Speeds

R. P. Cargille, maker of the Orelup Negative Integrator, is distributing a free booklet entitled "How to Use the Orelup Negative Integrator". The booklet con-

tains the comparative speed ratings of enlarging papers and other valuable data, as well as, complete details on the use of the Negative Integrator. This device is used with a Weston Exposure Meter and it enables the photographer to determine quickly and accurately, the printing time for enlargements or contact prints for any given negative; the quality of the negative; the amount of fog due to light or chemicals; and the grade of paper needed for best results. The Integrator is designed for 35mm. miniature negatives. The booklet may be had upon request by writing R. P. Cargille, 118 Liberty St., New York, N.Y.

Kodak International Exhibit For 1938 On Tour

More than 200 pictures from 19 countries of the world and a display of up-to-the-minute photographic equipment, have just been put on tour by the Eastman Kodak Co. The show will be known as the Kodak International Exhibit for 1938.

First showing opens February 19th, in the Mezzanine Gallery, International Bldg., Rockefeller Center, New York City. Other cities included in the tour are: Boston, Philadelphia, Washington, Pittsburgh, Cleveland, Detroit, Chicago, Milwaukee, St. Louis, Indianapolis, Cincinnati, Columbus and Buffalo. Ask for the opening dates of the show, in your city, at your local Eastman Kodak Store, or write the Eastman Kodak Co., for further details.

Profit From View Photos

The National View Co., Box 85-C, Winona, Minn., is offering photographers a profitable sideline, in photographic postcards. The cards are sold at jobber's rates to enable the photographer to resell them to stores at a profitable margin. Send the National View Co., your negatives and their quantity-quality production method permits them to supply you prints or cards, with a plain or fancy border, embossed, at \$2.00 per 100, prepaid.

Central Establishes New Form of Customer Service

The tremendous business success enjoyed by the Central Camera Company, 230 S. Wabash Avenue, Chicago, Ill., has necessitated an increase in space of approximately 4500 square feet.

This move has been made not only to

supply better service, but to also enable Central, for the first time in any such organization, to set up a Free Customer Service Department to advise amateur photographers on their photographic problems, and help them make better pictures.

This news coming from such an established photographic supply house as Central Camera Company, should be of interest to all amateur photographers who will appreciate not only the convenience of selecting their photographic requirements from the large stock of cameras and supplies carried by Central, but also the new Customer Service Department which is operated solely for the benefit of photographers everywhere. If you have any questions relating to photography, be sure to consult Central's Service Department. Address your communication to Central Camera Company, Photographic Service Department, 230 S. Wabash Ave., Chicago, Illinois.

New Jobo Developing Tank Now Available

The Intercontinental Marketing Corporation, 10 East 40th Street, New York City, distributors of Robot Cameras announce that the new Jobo Developing Tank is available to camera fans everywhere. This new darkroom accessory is made of lightweight, yet extremely durable bakelite. It cannot be harmed by developing chemicals. The bottom of the tank is especially moulded to jostle the film, resulting in freer circulation of the developing fluid, resulting in more even and more accurate negatives. The top fits tightly and securely. The Jobo Developing Tank has thinner and more numerous grooves and may be quickly and easily loaded. The film is guarded against buckling or sticking. This tank is available for No. 127, No. 120 and 35mm. size films. For complete details write to the Intercontinental Market Corporation.

Graphic Press Cut Film Holders Now Available in $3\frac{1}{4}\times4\frac{1}{4}$ Size

Among the many appeals in the 4x5 Speed Graphic Cameras has been the availability to it of the relatively inexpensive but dependable Graphic Press Cut Film Holders. This same appeal now carries over to the $3\frac{1}{4}\times4\frac{1}{4}$ size Speed Graphic.

For, the Folmer Graflex Corporation has just announced that the $3\frac{1}{4}\times4\frac{1}{4}$ Graphic is now available with Graphic Backs specially built to accept a $3\frac{1}{4}\times4\frac{1}{4}$ edition of the time proven and dependable Graphic Press Cut Film Holders.

Both the $3\frac{1}{4}\times4\frac{1}{4}$ Speed Graphic with the new type Graphic Back and the new smaller Graphic Holders are now available from dealers' stocks. To camera users, this announcement means that they can obtain an exact duplicate of the equipment used by nearly all press photographers—but in a smaller film size that will give them more pictures for less money.

New Eastman Products

Kodak Adjustable Cut Film and Film Pack Tank. The Eastman Kodak Co., have just announced two new products, the first of these being a new adjustable tank that will accommodate all amateur film sizes from 4.5x6cm. to $3\frac{1}{4}\times4\frac{1}{4}$ inches. This flexibility is obtained through the use of



two cores on which the molded reel flanges slide. Notched marking on the cores enable the user to adjust the reel quickly to any one of twelve film sizes. The tank will accommodate 12 films up to $2\frac{1}{2}\times3\frac{1}{2}$ inches and 6 films of $2\frac{1}{2}\times4\frac{1}{4}$ or $3\frac{1}{4}\times4\frac{1}{4}$ inches. Once the film is loaded in the tank and the cover slipped on, developing, fixing and washing may be completed in daylight. The Kodak Adjustable Cut Film and Film Pack Tank sells for \$10.

Panchro Press Packs. Panchro Press Film, which was so enthusiastically accepted by press photographers when placed

on the market two years ago, is now available in film pack form in two sizes— $3\frac{1}{4}\times4\frac{1}{4}$ and 4×5 . This change has been made without any sacrifice of this film's important characteristics: it's high-speed, fine grain, accurate color rendering and brilliant scale. Developing time remains as brief as before. The new Panchro Press Packs will sell for \$1.20 for $3\frac{1}{4}\times4\frac{1}{4}$ and \$1.40 in the 4×5 size.

New Bass Bargaingram

The Bass Camera Co., offers their new Still Camera Special No. 233 Bass Bargaingram to all photographers upon request. This is a source of unusual bargains offering "real buys" in all types of photographic supplies. Number 233 is a special issue for still cameras and accessories of 52 pages but other Bargaingrams are available on all types of photographic equipment.

Write the Bass Camera Co., 179 W. Madison St., Chicago, Ill., for Bargaingram No. 233 or for the Bargaingram covering the type of material you need.

Bass Camera Co., supplies any camera or lens on a guaranty of complete satisfaction on a 14-day trial basis.

Hans Unfried Specializing In Shutter Repairs

The firm of Hans Unfried, 20 Camp St., Buffalo, N.Y., are specializing in the repair of Compur shutters, old and new style, as well as, Compound shutters. Their plant is completely equipped with the special tools, required for this work, and they also carry a full stock of parts for these shutters. All the parts and tools are imported directly from the manufacturers. Mr. Unfried was employed with the manufacturers for several years and has just returned from a trip to Germany, where he studied the latest developments in the factory. All repair work is fully guaranteed and the firm handles all work promptly. Repairs are made at very reasonable prices. Write Hans Unfried, at the above address, for further details.

Exposure Tables For Superflash Photolamps

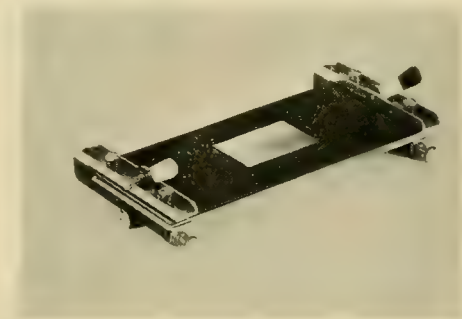
The Wabash Photolamp Corp., manufacturers of the Superflash Photolamp, are distributing exposure tables on the use of the commonest Kodak and Agfa Films with the Superflash type of lamp. The

data in these tables is accurate and completely up-to-date and they are an invaluable source of information. The tables are being distributed free, upon request, so write for your copy now, to The Wabash Photolamp Corp., 335 Carroll St., Brooklyn, N.Y.

Maxim Exposure Meter

The Raygram Corp., New York, announces it has just been appointed sole distributor in U.S. for the Maxim Exposure Meter.

The Maxim meter, a result of several years of experiment and development, comes about as close as possible to being a foolproof optical meter. A new principle, or rather combination of principles, makes it practically impossible for anyone of normal intelligence to come out with a badly exposed negative. Mechanically it is



simplicity itself, being practically uninjurable and unharmed by weather conditions, even submersion. It is light, weighing less than 1 ounce, and compact, measuring $1\frac{1}{4}$ " by $\frac{5}{8}$ ".

The Maxim meter gives motion-picture camera speeds, as well as those for still cameras, compensates for filters from 0x to 16x and Scheiner film-speeds from 14 to 29 degrees. It is completely pre-settable, requiring only one operation to make a reading when on the field. This operation, by actual test, averages about 3 seconds.

The price, \$1.75, includes a featherweight aluminum case, complete instructions, and speed ratings of 59 different films, both amateur and professional.

Manufactured by the Maxim Instrument Company, distributed by The Raygram Corp., 425 Fourth Ave., New York, N.Y.

CLASSIFIED ADVERTISEMENTS

Rate: 6 cents a word; minimum \$1.50 each insertion, prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Cooke "Speedic," series X, F:2.5, 6 $\frac{1}{2}$ inch anastigmat, like new, \$110.00. Also Struss Pictorial Set, 7 $\frac{1}{2}$ in., 9 in., 10 $\frac{1}{2}$ in., with extension tube, all useful with Graflex—set new, \$25.00. Folmer enlarging camera, 5x7 with kits 4x5 and 3 $\frac{1}{4}$ x4 $\frac{1}{4}$, best quality mounted condensers, perfect condition. Detailed particulars on request. Frank I. Jones, 1010 S. W. Sixth Ave., Portland, Oregon.

◆45 x 107 Rolleiscop Stereo Camera; Zeiss F:4.5 Tessar lenses; just like new. Cost \$225.00, will sell for \$125.00 subject to approval. John Kovar, 979 Marview Ave., Los Angeles, Calif.

◆8x10 Eastman View camera, portrait shutter, Goerz lens, perfect condition, sacrifice \$65.00. Phone Fruitvale 1935. Write 2654 Sunset Ave., Oakland, Calif.

◆Bargain fraction of cost. R. B. Graflex Model "C," F:2.5 Cooke 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ Pack adapter and case, never used since overhauled by Eastman. \$87.50 cash. Address S. C. N., Care Camera Craft, 425 Bush St., San Francisco, Calif.

◆Plaubel's Anticomma F:3, 3 inch, 2 $\frac{1}{4}$ x 2 $\frac{1}{4}$ (barrel) \$24.00. Goerz 3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ (R.F.) camera, F:4.5 Dogmar (Compur) \$26.00. 35mm. movie, also educational projector (inquire). Larson, 3916 Labadie, St. Louis, Mo.

STUDIOS FOR SALE

◆Half interest in a ground floor studio and camera shop located in a thriving western town, \$1500.00 cash, balance terms. Address T. W. T., Care Camera Craft, 425 Bush St., San Francisco, Calif.

◆Only studio in a county seat town of 3,000 people. Good pay rolls. Gold mining town. Must retire. M. J. Pierce Jackson, Calif.

LENSES WANTED

◆Telephoto Lens for Contax camera. Must be in perfect working condition and priced right. Write C. A. Surner, P. O. Box 1483, Spokane, Wash.

CASH PAID FOR AMATEUR SNAPSHOTS!

Thousands wanted immediately! Earn good money every week by turning your hobby into a big income. Write for information. Enclose stamp. INTERNATIONAL PHOTO SYNDICATE, Div. 56, Hohm Bldg., Western and Sixth, Hollywood, Calif.

Leicas, Contaxes, Rollei-flexes and Primarflexes

Bought, sold, and exchanged.

3 $\frac{1}{2}$ "x5" Enlargements 7c each when enlarged from whole 35 mm. roll.

Miniature Camera Shop

1600 Post Street

San Francisco, Calif.

OUTFITS WANTED

◆Super-Nettel or Nettax and accessories, or Ikonta B. Also 8mm. movie camera. Oliver C. Smith, 1200 3rd Ave., Seattle, Wash.

◆3 $\frac{1}{4}$ x 4 $\frac{1}{4}$ Graphic or Graflex outfit cheap for cash. R. L. Haniman, 4215 Park Blvd., San Diego, Calif.

◆In good condition one Eastman 5 x 7 roller film (#5) cartridge Kodak either E or F model, F preferred. F. W. Tompkins, 236 Front St., San Francisco, Calif.

◆Century Studio Camera #10 A size 8x10 with 5x7 back. Complete with stand. Voigtlander Portrait lens F5 or F6—from 20 to 26 in. focus or any other portrait lens of long focus. Ansco 8x10 View camera with 7x11 attachment. Encehardts Photo Studio, Bismarck, North Dakota.

HELP WANTED

◆A salesman experienced in selling photographic equipment, especially miniature cameras. Northern California. State experience and age. Address P. E. C., Care Camera Craft, 425 Bush St., San Francisco, Calif.

CAMERA BARGAINS

Contax II, F2.....	\$145.00
Pilot Reflex F3.5.....	26.00
Dollina II, F2.9.....	46.50
Enlarger 35mm. to 2½x3½ easel, lens.....	45.00
35mm. negative Super Pan 25 ft.....	1.00
Filmo F3.5.....	\$32.50
F1.5.....	69.50

MANY OTHER BARGAINS—TRADES ACCEPTED
Camera Mart, 110 West 40 Street, New York City

PHOTO POSTCARDS

Extra profits to professional photographers, dealers, etc. Let us make your postcards, prints, packets, copies and photo greetings. Ferrotyped postcards \$15.00 per M. prepaid. Also display racks. Stamped envelope brings samples and price list.

View Photographers Wanted

NATIONAL VIEW CO., Box 85-C, Winona, Minn.

CAMERA EXCHANGE

RIFLES, Shotguns, Target Pistols and other firearms accepted in trade at liberal allowances on Leicas, Contaxes, Graflexes, Weston meters, and all photographic equipment, motion picture and "still." Authorized dealers for every leading manufacturer, including Zeiss, Leitz, Eastman, Bell & Howell, etc. Write for catalog.

NATIONAL CAMERA EXCHANGE
(Est. 1914)

11 SO. FIFTH ST.

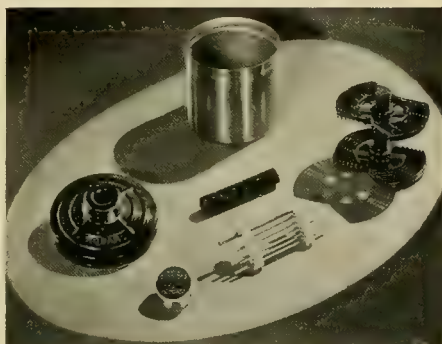
MINNEAPOLIS, MINN.

Let Us Show You These Convenient Aids for Your Home Developing and Printing

KODAK ADJUSTABLE CUT FILM and FILM PACK TANK

THIS new Eastman accessory takes cut film and film packs in all amateur sizes from 4.5 x 6 cm. to $3\frac{1}{4}$ x $4\frac{1}{4}$ inches. Loading in the darkroom is simply and rapidly done, after which the operations of developing, washing, and fixing may be carried on in daylight.

The tank itself is of one-piece, stainless, acid-resistant steel. Interchangeable cores and flanges of molded material make it easy to switch from one film size to another. Price complete, \$10—stop in and see it.



KODAK AMATEUR PRINTER

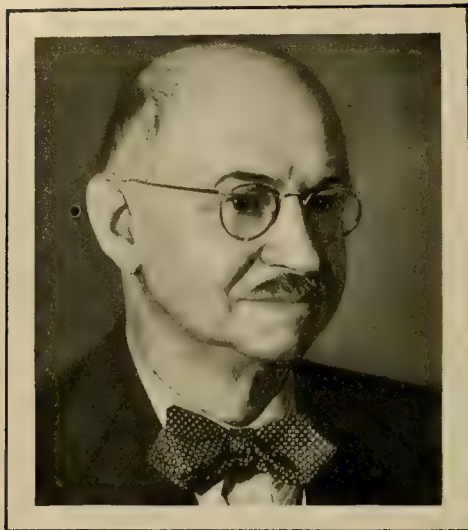
A COMPACT device for quick and convenient contact printing. It fits negatives from $1\frac{5}{8}$ x $2\frac{1}{2}$ to 4 x 5 or $3\frac{1}{4}$ x $5\frac{1}{2}$ inches. The negative to be printed is placed on the top glass window by the light of a red bulb inside the printer. A simple masking arrangement controls the white margins. The paper is then placed over the negative and the hinged frame closed. This automatically turns on a 60-watt electric lamp (not supplied).

The printer is supplied with $5\frac{1}{2}$ feet of electric cord with plug, and one red bulb; by inserting an ordinary 60-watt lamp, it is made ready for use. The price is \$12—come in and let us show you.



EASTMAN *Kodak* **STORES, INC.**

LOS ANGELES....SAN FRANCISCO....SAN DIEGO
OAKLAND....SEATTLE....TACOMA....PORTLAND



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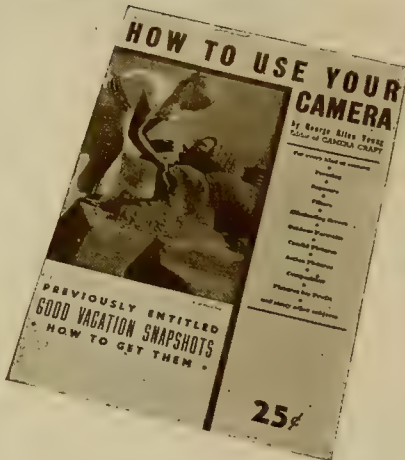
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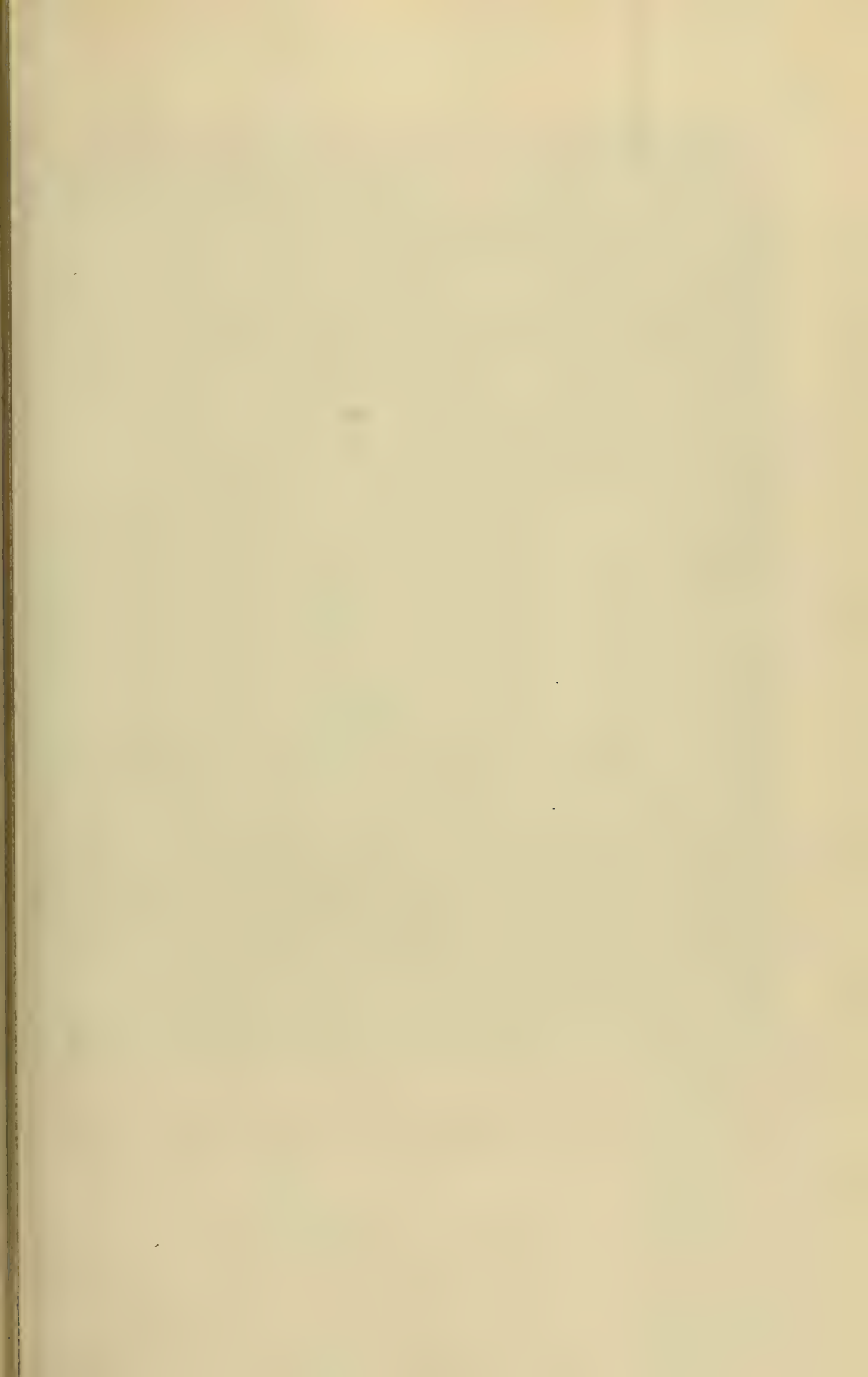
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What Is A Good Portrait?

Tracy Webb

ONE of the greatest difficulties which professional portrait photography has to face is the idea firmly imprinted in most people's minds that a photograph is "just a photograph", by which they mean that it is not in any sense a work of art but is the result of a purely physico-chemico-mechanical operation. It is the purpose of this article to discuss what a portrait is and what it is not, also what distinguishes a good portrait from a bad one. Yet it will be noticed that not once will the purely technical side of the subject be touched upon.

No one can join in the activities of a camera club, or take part in the print competitions of this magazine, without realizing the immense scope there is in the simplest subject, whether it be landscape, still life, genre or portrait, for individuality of treatment, and for choice, arrangement and control. The camera, film and printing medium can no more make a good portrait in the hands of a man without artistic feeling and understanding of human nature than can the brush, colors and canvas used by a painter.

When we come to look at portraits with these considerations in mind we understand why it is that one photographer will get fifteen to twenty-five times more for a picture than another. The difference in the cost of the material used is so slight as to be negligible. And in each case the buyer receives just about what he is paying for, full value in each case. The difference between the two prints is in the knowledge, skill, judgment, good taste and artistic ability that was put into the making of each picture

respectively. In other words it is not "just a photograph", but a photograph *plus* something put into it by the mind of its maker.

Before I discuss what qualities make a picture a good portrait there is an important misconception to be removed. Not all pictures of people are portraits, not even all pictures of faces. Photographs in which human beings are the main center of interest can be roughly divided as follows:

(1) *Mere records*, such as identification photos, snapshots, pictures made by mass production methods in department stores and the studies of pores and pimples put out by some of the f:64 school. Most news pictures also come under this heading.

(2) *Genre or human interest pictures* which are studies of people as members of the race, or as representatives of types, or purely artistic works where the center of interest is a person or a group. Some of the finest work of the pictorialists belongs to this class, but they are not true portraits if their purpose is one of general interest apart from the personality of the particular individual appearing in the picture. The interest of a genre is in *what* the subject is or is doing, rather than *who* he is.

(3) *Dramatic or character studies* which overlap genre on the one hand and portraits on the other. A picture of an actor interpreting a part, for instance, is mainly taken to show that particular actor, and so has additional interest to that merely depicting the type the actor is representing. But as it does not show the man as his proper self it cannot be classed strictly as a portrait. To this borderland class also belong what photographers call "professional", that is pictures of dancers, musicians and actors where the interest is in what they are doing as much as in who they are.

(4) *Nudes or figure studies* do not seem to come under any of the foregoing headings. Yet they are so important in pictorial photography that they cannot be ignored. Except when occurring as anthropological illustrations they cannot be classed as mere records for they are among the most exacting and artistic of all branches of photography. Nor are they genre for the human interest aspect is in most cases deliberately subordinated to that of design and form. And they can never be confused with portraits for the prime essential of all such pictures is that they should be impersonal. Let them therefore form a class by themselves.

(5) So, by a process of elimination we have come to the point where we are able to say what constitutes a true portrait. Its value depends upon the extent to which it brings to the mind of the observer that particular individual as distinct from all other individuals, when he is his own normal self. Everything that detracts from this purpose must be subordinated or eliminated and everything that helps it must be preserved and emphasized so that the positive aspects of the personality become the main feature of the picture.

I have laid this emphasis on the difference between the several kinds of pictures of people and especially on my perhaps arbitrary definition of the word "portrait" because there is quite a large amount of confusion on the point among those who ought to know better. I recall once when I was making a portrait, in the home of a lady, of her young son, she showed me a photograph made only a few months earlier of the same boy by a



"John Pardee"

Tracy Webb

Figure 1. Illustrating several points which go to the making of a true portrait, notably "likeness" and "aliveness."



"The Deer Spirit"

Tracy Webb

Figure 2. Norman Brollen in an Indian dance composed by himself and based upon an old legend. This is an extreme example of an "in character" picture, which is not a portrait. (See Figure 3.)

very high priced photographer. She said, "I know it is a lovely picture, but somehow it does not seem to be my little son." In other words that photographer had made a study of the head of a small boy, a genre study, not a portrait. The composition was fine, the photographic technique perfect, and it had an originality of treatment that stamped it as the work of the great So-and-so. But the personality of the subject was subordinated to the type "little boy". Jimmy, or whatever his name was, had served as a model for a work of art, but it was not a portrait.

Again the portrait maker is in danger of getting the picture cluttered up with accessories, lovely ones sometimes, as one might find in a garden, or by the side of a lake, or in a handsomely furnished room, these things being used as a setting for his subject. But the effect of these things, cannot fail to subordinate the personality unless the danger is realized and consciously and skillfully guarded against.

I have seen a head-and-shoulder picture purporting to be a portrait converted into a study of light and shade patterns by spots and patches of light, such as sunlight passing through the openwork brim of a large hat, very pretty. But, without knowing why, customers seldom order more than one copy, if any, of that type of picture.

It is the discovery of what that quality is that makes a picture a good



"Norman Brollen"

Tracy Webb

Figure 3. A portrait in which the qualities of simplicity and cleanness of line help to emphasize an interesting personality. Compare with Figure 2.

portrait that constitutes the main study of all sincere portrait photographers. Those light-and-shade patterns and other little tricks, such as strong angular lines, that make pictures spectacular and striking to those not acquainted with the person photographed are felt by his or her friends and relatives to be temporary or transient phases not belonging to the subject. They are not inherent and tend after a time to become wearisome and disturbing, however lovely or clever.

To describe what the positive qualities are that make a good portrait is extremely difficult. We all of us know that certain paintings, sculptures and musical compositions, are great works of art, but we are all of us equally incapable of saying in so many words what qualities those pictures, sculptures and compositions have in common which make them great works of art. So if I fail in my attempt to describe completely what qualities go to the making of a good portrait do not conclude that such qualities do not exist. If I can point out some of the most essential ones I shall have attained my purpose.

(1) First and above all then, a portrait should be a good *likeness* (a good old pure Anglo-Saxon word unfortunately falling into disuse). And by likeness I expressly do not mean a meticulous map of the face. Some of the f:64 school pictures of faces that I have seen have been almost microscopic delineations of every pore, every scar of last year's pimples and razor slips and other little temporary blemishes. But they have not been likenesses for they give one a shock on first looking at them that the subject himself or (still more decidedly) herself, does not give. We who possess normal minds may look at those things on a person's face, but they do not register in our minds. We may look at them, but we do not see them. When the closely stopped down lens flattens them out on paper in black and white on glossy paper they become too insistent and yell at you so hard that you fail to notice the likeness. Just as previously we found the personality of the subject subordinated to the design of the background and accessories, so we now find it overshadowed by a mass of micro-anatomical detail.

On the other hand a likeness can be spoiled by too little detail as well as by too much. The blurred and fuzzy images which were considered quite proper a few years ago are now only made by second rate photographers either in ignorance, or to save themselves retouching. The likeness is least interfered with when the photographic image and its paper support do not draw attention to themselves either by their roughness, fuzziness or obscurity on the one hand, nor by their shiny surface, sharpness and harshness on the other. The only thought or feeling provoked should deal with the personality of the subject as when one is prompted to say, "What a speaking likeness!"

Skill and good taste in lighting and posing is important to likeness. An advertisement by a manufacturer of lighting equipment was used a few years ago showing two pictures of the same person taken from the same point of view and without any change in pose or expression on the part of the model, yet only one's faith in the advertiser's veracity and one's own confirmatory experience caused one to believe his claim that the only difference between the two pictures was that they were differently lighted. If one was a likeness the other was not, so different were they.



"Mary Ann Mason"

Tracy Webb

Figure 4. This portrait of a baby shows how much "aliveness" there can be even in a non-smiling picture.



"A Study"

Tracy Webb

Figure 5. Compare this with No. 6 which is of the same subject. The personality is here subordinated by the emotional character of the pose, and the rather dynamic type of composition, so that the feeling evoked is that it is somewhat dramatic. It is the study of a beautiful head and shoulders rather than a portrait.

(2) Almost equal in importance to likeness in a portrait is a quality which is usually described among photographers as *aliveness*. If left to themselves, that is if there is no effort or ability on the part of the photographer to cause them to do otherwise, the great majority of people will, when in front of the camera, take on a stolid, expressionless look that can best be described as a lack of aliveness. "Blank" might perhaps come near describing it. In attempting to overcome it they sometimes affect a sickly grin, which they think is a smile, or a benevolent look, which is equally lifeless and unnatural. The overcoming of this difficulty is the hardest task the portrait maker ever has to face, and it is the one that makes portrait photography the most difficult of all branches of the art.

The unskillful or over-worked camera man has one universal remedy for this trouble; he cracks a joke to make the subject laugh. That is the easiest way out and with certain types of person who are the patrons of the cheapest mass production studios, it seems to give satisfaction. But one soon wearies of these pictures. A laugh or a broad grin is decidedly a movement and after a time one wishes that the features, snapped in transit, as it were, would get back to normal. A good portrait must reveal an expression which might naturally be held for a while in repose, for photographs do not move.



"Miriam Thomsen"

Tracy Webb

Figure 6. Notice how the simplicity of treatment leads our attention to the clean lines of the profile. A side view can never be quite so personal as one showing both eyes, but it is often quite enough so that it constitutes a true portrait.



Figure 7



Figure 8

"Posey" poses where the unusual attitude and composition detract from interest in the subject as a person.

This does not mean that a smile is not permissible but it must not be a smile of amusement but rather one expressing happiness or joyful greeting. One may hold a smile for quite a time if listening to music one enjoys, or in the course of conversation with a friend. The expression you see on a friend's face in animated, pleasant, conversation is one you are certain to like when you see it in a picture, for that is how you will most often think of your friend.

But smiling pictures are not the only ones that are alive. A perfectly sober face may have an extremely lively expression if interested in something. To be "alive" in the sense that I am using the word the face must reveal the fact that there is "something going on inside". That expression most to be evoked by the photographer, by something he says or does, by his personality calling forth that reaction in his subject. One can lay down no rules, nor plan any line of talk before a sitting. Everything must arise naturally out of the immediate occasion, for any forced conversation would at once defeat its purpose. Once I had a man come into my studio for a portrait who was so painfully nervous and self-conscious that he made my receptionist equally nervous and she came and told me she thought he would be quite an impossible subject. Her nervousness soon communicated itself to me and by the time I came on the job I felt as hopeless as I have ever felt about anything. All I knew was that he was the head of a large concern connected with advertising, which I knew nothing about. So I started asking him all sorts of questions about his business and advertising in general, this was while I was getting my apparatus ready, and I prolonged this task rather more than necessary. By the time I was ready he was completely at ease, and so was I. He was so immensely interested in his profession that he simply loved to find a ready listener, and I was quite sincerely interested in what he had to tell me. I believe that when he left he had the impression that he had had a really good time. And I received a handsome order from him for those pictures.

(3) Another essential to a good portrait is that it must be *pleasing*.



Figure 9

Tracy Webb

A study in the lighting of a lovely face. The pose is too emotional and dramatic for it to be classified as a true portrait. This should not be understood to mean that such pictures are not well worth taking.

An aspect of the face must be chosen that does not emphasize any facial defects or lack of normal symmetry. In other words a portrait can seldom be a candid shot, for candid shots, as we are learning from the numerous picture magazines that are now springing up in such numbers, can be very, very unkind. No matter how completely you may attain an artistic treatment of a subject, if you are an amateur and produce an unpleasing picture of a friend, you will lose that friend; and if you are a professional you will lose a customer if you are too candid. So however much you care for sincerity and so-called art do not make candid shots if you are planning to continue living among your fellow citizens. The reason why candid shots are so seldom true portraits is that they nearly always depict arrested motion, unfinished movement, which, when applied to the face, is usually accompanied by a distortion of features decidedly unpleasing.

(4) Then there are a set of closely allied qualities which all pictures, but especially portraits, must have to be satisfying. One of them is *simplicity*. The picture must not be cluttered up with anything extraneous. Anything bizarre in the composition, too strong shadows, too obtrusive pattern in clothes, lack of balance in the spacing, unnatural tilt of head or shoulders, or irrelevant accessories, spoils a portrait. One of the most appreciated compliments I ever had from a fellow photographer when I showed him some of my pictures was "That's CLEAN work."

Very closely allied to simplicity is harmony. Thomas Craven says that the ancient Greeks defined one of the purposes of art as "the bringing of experienced facts into harmonious relationship." This is largely a psychological point. A portrait of a fascist dictator may quite properly show a scowl on the face, because that is in harmony with what we know of him, but the same expression on the face of a pretty girl would create a feeling that there was something wrong either with the subject or the photographer.

Another allied quality is repose. Both expression and attitude should be one which might be likely to be held in repose. Too strenuous a pose or expression would tire the observer and tend to take the picture out of the portrait class into that of drama.

* * * * *

In conclusion I should like to point out a fact not often realized even by professional photographers. In spite of the depth of depravity to which it has been dragged by commercialism on the one hand and the gutter press on the other, it is in the portrayal of personality that photography has had its most outstanding success. The older graphic arts such as portrait and miniature painting have been almost put out of business by photography, because of its power to render faithful likeness and subtle shades of expression. May we hope that it will retain its sanity and sincerity and not be led too far astray by the modern spirit which so often seems to take it for granted that anything is justified so long as the result is "different" and startling.

The author wishes to express his appreciation and thanks to the persons who have given him permission to publish their photographs, and especially to Miss Jacquelyn Smith for her time and patience in posing for pictures for this article.



"Jacquelyn Smith"

Tracy Webb

A true portrait because the subject appears here as her own charming self without any affectation. And there is nothing in the background, pose nor accessories to detract from the features and their expression; that is, from those things which do most to reveal personality. Compare with Figures 7, 8 and 9 which are photographs of the same subject.

Infra - Red

Photography

B. W. Leroy

INFRA-Red?

Immediately there comes to mind memories of prints with chalky foliage, glaring contrasts, and weird night effects. It cannot be denied that the average infra-red negative will produce prints of this type, but it can be denied that these results are unavoidable. Skies will be black, it is true, but many of us prefer this, and print the sky as dark as possible to accentuate the horizon line.

It is common knowledge that infra-red emulsions possess remarkable haze-cutting properties, but it is perhaps not so well known that these plates can be used to advantage in only moderate correction for certain types of views. For instance, atmospheric haze may present difficulties at the specific time when the photographer wishes to shoot a certain landscape.

He may, at the time, wish to render that particular scene with vigor and brilliance, and not with a pictorial—or pretty—effect. Infra-red materials will, with a modified technique, render that scene with strength even under adverse conditions. Too many workers expect the impossible from these emulsions. It is not unusual for an amateur experimenter in this field to climb triumphant to the top of the nearest hill in mid-August with the atmosphere so thick with dust you could chew it, and blaze away at the surrounding landscape with a broadside of a dozen exposures. The only possible advice to such workers, is this, remember that there are two kinds of haze; dust and moisture. Dust is solid matter, which is a mighty tough proposition photographically, unless you call in a few X-rays to help matters out. So keep that fact in mind. Do not expect too much of infra-red. Use it intelligently, and modify your photographic technique so that you may use these plates to the best advantage.

In working with these materials, the following points are important to remember:



B. W. Leroy

(1) Looking north from Mt. Hood. The individual glaciers are clearly visible on Mt. Rainier (center) which is 101 miles away from the camera. Mt. Adams to the left. Taken at 6:00 a.m. in June, on E.K. 1-R Infra-Red plate with "25-A" filter; 4 sec. at f:16.

1. That infra-red emulsions destroy atmospheric quality. That is, by their special sensitivity and inherent contrast, they dissipate and destroy that quality of rendering those receding planes of tone which give one the impression of atmosphere and hazy distance.

2. That while these emulsions are not conducive to obtaining so-called pictorial results, they serve a definite purpose in rendering scenes with vigor when that effect is desired.

3. That the medium of infra-red is a very contrasty one, and care must be used to control this contrast to suit the individual worker's needs. Detailed description for this procedure will be discussed later in the article.

4. That allowance must be made for the long exposures in this technique. Exposures will vary from one-half to six or seven full seconds.

In adopting this modified technique for infra-red photography, the photographer must leave the cut-and-dried scientific viewpoint, and use this material much as he would his usual negative stock. Amateur photographers quite often use special methods of development for various effects, and after learning what infra-red plates can do, may use much the same procedure.

Before starting to experiment with these plates, remember that this medium is much more variable than the usual negative material. That is,



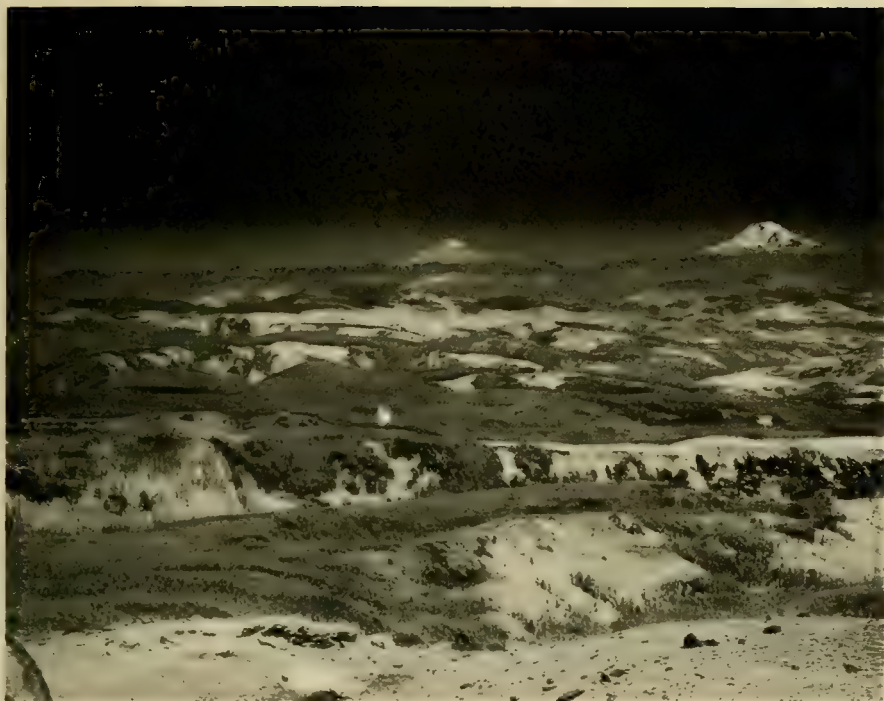
B. W. Leroy

(2) Taken at 11:00 a.m. in July, on E.K. Commercial Ortho cut film, with K-2 filter; 1/10 sec. at $f:16$. Developed for 15 minutes in D-76 at 65°. Compare with 3.

one may shoot under apparently the same conditions, give exactly the same exposure and development as in previous cases, and yet obtain entirely different results—or complete failure. Considerable study in this field has failed to disclose the exact cause of this, but it is the very private opinion of some photographers that most of the existing authorities hesitate to assume the responsibility of stating flatly just why these emulsions should vary under what appear to the eye to be identical conditions. In spite of this shortcoming, however, these materials can be handled so that they give reasonably consistent results, and will in the long run well repay the photographer for his work.

Another aid in this matter of technique is to forget entirely that these emulsions were primarily created for special effects. Discard, at the start, a tight scientific viewpoint, and remember only that these plates are most sensitive to the red and infra-red rays which are the longest and strongest for our photographic needs. By keeping this fact in mind, we will remember that by utilizing the characteristics of these long rays, we can make sparkling negatives of scenes which we want to render with brilliance and not with that hazy, pretty effect of average pictorial photography.

The following detailed description will give a clear picture of how to obtain reasonably consistent results with infra-red:

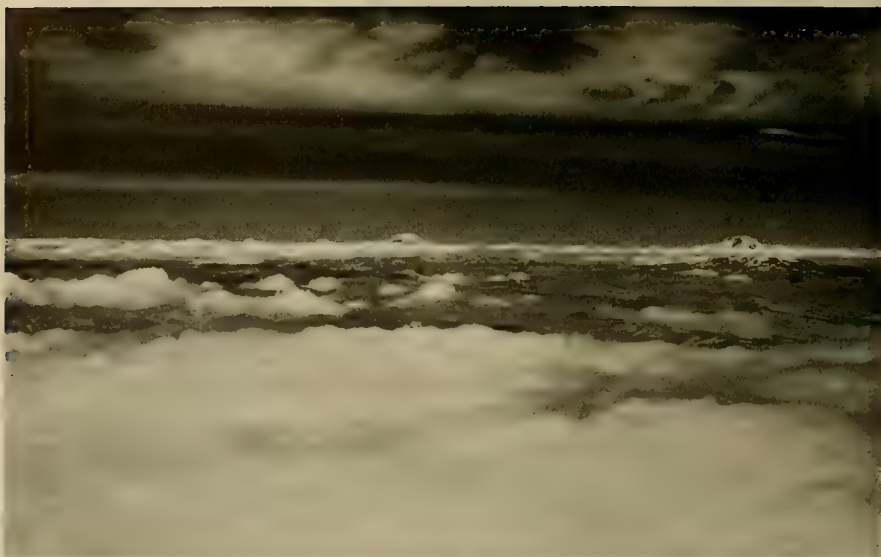


B. W. Leroy

(3) Taken at 11:00 a.m. in July, on E.K. Type 1-R Infra-Red plate with "25-A" filter; 3 sec. at $f:16$. Developed for 8 minutes in D-76 at 65° .

Choose the type of material carefully. Perhaps the best results will be obtained with the larger sizes of plates. The Eastman type 1-R is an excellent plate and may be purchased in several sizes. Remember that the larger a plate you have, the sharper and more brilliant the image will be. The 4×5 and $3\frac{1}{4} \times 4\frac{1}{4}$ sizes are ideal in this respect. Load them in dust-free double plate holders, and be sure that the dark slides are not of hard rubber, as fog will result from this type of slide. Roll film in the $2\frac{1}{4} \times 3\frac{1}{4}$ size may be obtained in the infra-red emulsion, and produces fairly good results. The Ilford Company makes this film, and there may be other brands on the market. The difficulty presented with film in this length, as with the 35mm, is that so many exposures must be made in order to use up the material at hand.

Next to be considered are exposure and development. These two factors must be balanced; roughly speaking, the exposure will always be full, and the development short. One must keep within reasonable limits however, and not go to extremes in this matter. It is difficult to give an accurate example, but a general open view in summer would probably take about four seconds at $f/16$ with a Wratten 25-A filter. This plate, tank developed for about eight minutes in D-76 at 65 degrees F., should produce a sparkling negative. The Wratten 25-A filter will be found to be the



B. W. Leroy

(4) View from the summit of Mt. Hood (11,253 ft.), looking north. Cumulus (lower) cloud level at 10,000 ft. with the cirrus (upper) cloud level many thousand feet above. Taken at 9:00 a.m. in June on E.K. Type 1-R Infra-Red plate with "25-A" filter; 2 sec. at f:16.

most practical, with the "G" a close second, and both filters will require the same amount of exposure increase. Since both recommended filters would have the same factor, factors may be disregarded and the exposures mentioned in this article all allow for the filter. So, in summarizing, we find that by giving exposures of two to four seconds (depending on the strength and direction of the light) and by tank developing for about eight minutes in D-76 at 65 degrees F., we will obtain good quality negatives. In using tank development for these plates, the most satisfactory method is to use a plate rack, because the emulsion tends to peel away from the edges of the plate due to the warmth of the fingers.

Lighting is a very important factor, and can easily be miscalculated. As a general rule, avoid shooting into the light source; this is entirely contrary to the usual procedure of pictorial lighting, but experience has proved that shooting too directly into the sun produces terrifically contrasty effects. This rule also applies to a strong, low, side light. While these particular lightings may at times be used successfully in infra-red work, the usual result is too much contrast, and so should be avoided whenever possible. Perhaps the best lighting for this type of work is a strong morning light, with the sun rather high, and slightly behind the camera.

In summarizing the technique for this type of photography, the following points should be kept in mind:

1. Use plates preferably, and in the larger sizes. In using roll film, make several exposures to allow for possible blemishes which do seem to occur on this emulsion.
2. Use an "A" filter, and focus with it on the lens.



B. W. Leroy

(5) View of the Columbia River Gorge looking east. Morning clouds have rolled in from the west, and filled the gorge to a depth of four hundred feet. This is a difficult thing to photograph and can only be properly done with Infra-Red. Taken on E.K. Type 1-R Infra-Red plate with "25-A" filter.

3. Over-expose. Give exposures ranging from two to four seconds at $f/16$ on average views with good light, and watch that the clouds are not moving fast enough to record as blurs from the long exposure.

4. Use tank development if possible, and do not handle the plates or films with the fingers.

5. Under-develop. Experiment until you have found the right balance for your exposures. Eight minutes in D-76 at 65 degrees F. is a good point from which to start.

6. Watch the lighting. Do not shoot into the light source. Side lighting is practical only when the sun is well above the horizon. The best light is a full overhead, with the sun slightly behind the camera.

In spite of all precautions, your infra-red negatives will, at times, be contrasty. In these instances, use a soft print developer, or a softer paper, or both. You may also aid matters by dodging or by spot printing in the highlight areas. In time you will learn to stay away from shooting scenes in which there are deciduous trees. The evergreens, on the other hand, are not as difficult in this respect, and consistently register as a darker shade, without the extreme chalkiness so characteristic of infra-red shots.

Watch the above-mentioned points, be systematic in your technique, and you will find an interesting field in infra-red photography.

A Report On Agfa

Ultra - Speed Pan

Harry Champlin

THE introduction of the new Agfa Ultra Speed Panchromatic and Agfa Supreme 35mm films was the result of a logical advance in negative making. These new films record shadow detail so well that the resulting contrast more nearly approaches that seen by the human eye. In fact, shadow detail is recorded so easily by these films that there is great danger of overexposure. Overexposure with any ultra rapid type of emulsion will result in flatness in the final print. And flatness is a characteristic which should be avoided at all times.

These new films should be given a minimum exposure and no more, and should be developed fully in order to preserve correct gradation and contrast. Experience gained through developing these films has shown that there is little danger of underexposure and great danger of overexposure.

For some time past I have been advising people to expose Agfa Ultra Speed 35mm. Panchromatic film at 144 Weston in daylight and 72 Weston in Mazda light, and Agfa Supreme 35mm. film at 72 Weston in daylight and 40 Weston in Mazda light, for development in Champlin No. 15. Negatives exposed at these ratings will show much more shadow detail than is usually obtained with a normal exposure on ordinary film. This is probably a good feature because we are now nearer the perfect negative than ever before. A perfect negative is one that will yield a print with brilliant highlights, luminous shadows and full detail in every part of the print. It is possible to double these Weston ratings without any sacrifice in the tone scale which we are accustomed to see in negatives. When these emulsions are exposed in the camera, highlight detail and shadow detail are recorded with almost equal intensity. When the film is put into the developer highlight detail and shadow detail appear at the same time. And as the development time is increased, the developer sinks deeper into the emulsion and contrast between highlight and shadow appears.

The developing time for these emulsions are $22\frac{1}{2}$ minutes for the Agfa Ultra Speed and $19\frac{1}{2}$ minutes for Agfa Supreme 35mm films at 70 degrees F. in my Formula No. 15. These developing times will give you a negative with sufficient density in the highlights for brilliance in the finished print. These developing times are sufficient for full density in the negative without being so prolonged as to cause any difficulty in the grain structure of the emulsion.

Formula No. 15 is particularly suited to these new type emulsions because it first creates a stained image which is almost grainless and which has sufficient density for correct contrast and brilliance. Then as the development time is increased, a real silver reduction takes place and this silver reduction if allowed to continue for any length of time will create

graininess in the negative structure. The times given, therefore, are correct for an image with a fine grain structure. Microscopic tests show the grain structure of negatives developed at these times to be finer than regular 35mm Superpan. The grain structure of the Supreme 35mm film is almost as fine as that of Agfa Finopan and the grain structure of the Ultra Speed is no coarser than other ultra rapid emulsions.

Now, it is possible to use these films at double the Weston ratings given above. You will have a surprising amount of shadow detail. If the development times are those recommended with Formula No. 15 you will have more delicate negatives capable of yielding perfect prints on either Defender Velour Black I, medium; Vitava Projection G2; or Agfa Brovira Kashmir, medium. The developer recommended for these papers is the Eastman formula, D72 in the proportion one part stock solution to two parts of water. These papers will give the slight amount of contrast needed with the delicate qualities of the negatives.

You can increase the developing time of the film 15 per cent which means that Agfa Ultra Speed panchromatic should be developed $26\frac{1}{2}$ minutes and Agfa Supreme should be developed $22\frac{1}{2}$ minutes, and you will have stronger negatives which will require slightly softer papers for printing. There will be some increase in the grain structure of the negatives due to the fact that development time was prolonged and that more actual silver reduction took place. This increase in grain structure will make Agfa Ultra Speed panchromatic film slightly grainier than other ultra rapid films developed in Formula No. 15, and will make the grain structure of Agfa Supreme comparable with that of the 35mm Superpan, old type. The speed of these two films seems to be the drawing card for most amateur photographers, but to me the main feature about them is the exquisite gradation which is the result of tremendous shadow speed.

It is my understanding that the Agfa Supreme emulsion will be made available to the public under the name, Agfa Superpan, new type. This emulsion is the finer of the two because it has speed, gradation and fine grain combined in one product. I would recommend it for all photographic work except where extreme flatness prevails. Such subjects call for films with more contrast.

These films have a high percentage of red sensitivity which accounts for the very high speed under Mazda light. They work exceptionally well with filters, especially the deep yellows, orange and red. At the present time, you may experience some difficulty in calculating the speed of these films with present-day exposure meters because none have ratings so high. The simplest way to do this is to set your Weston meter at 64 and use one stop smaller than that called for by the meter in daylight, or set the meter at 64 and put an Aero 2 filter over the lens, allowing no increase in exposure because of the filter.

Meters which are not marked according to the Weston or Burroughs & Wellcome system should be set at either 27 degrees Scheiner or 20/10 DIN, and the same procedure followed of using a stop smaller or an Aero 2 filter.

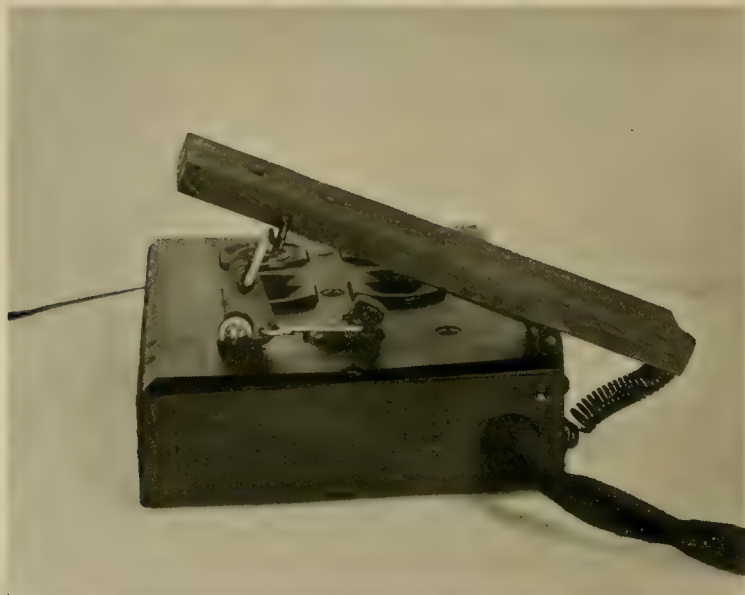
These films are not to be considered the ultimate in emulsion making. They represent, however, a real advance towards recording contrasts in the relationship seen by the human eye.

A Practical "Hi-Lo" Photo - Flood Switch

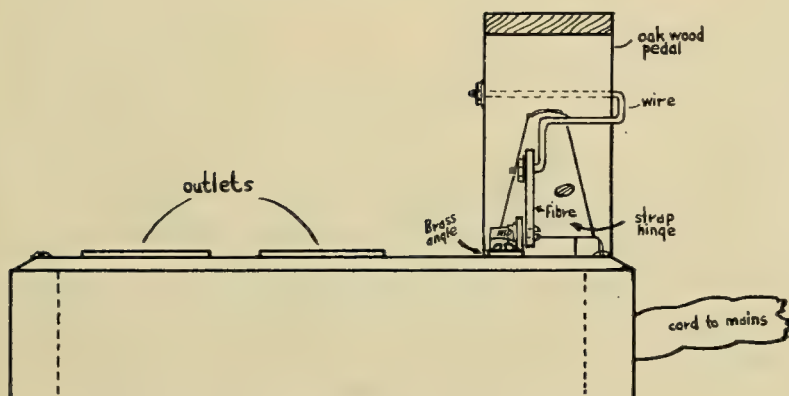
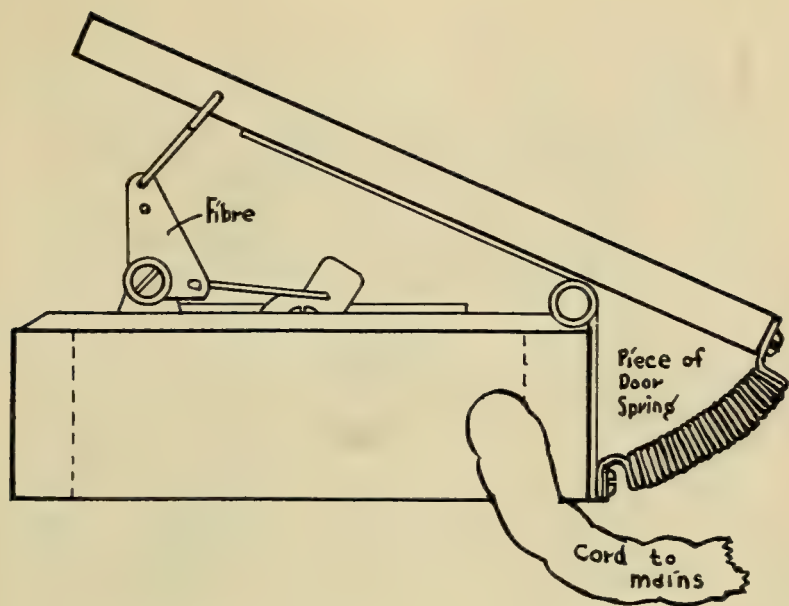
H. Carl Schmidt

AS an amateur and semi-professional photographer, the writer has patiently watched the market for a "Hi-Lo" switch for use with Photo-flood lights. So far none has appeared except those built into the lamp standard or the lamp itself.

None of these seem to be entirely satisfactory, so I simply built my own out of "junk" parts and it turned out to be very simple and easy to make. It has been in service for almost two years and during the past year eight lamps were used in my lighting set-up. The last set of lamps was put in use about a year ago and so far none have burned out. These lamps have been used for home movies, home portraits, interior time exposures, almost everything, but they are still good. This is because they are burned at full voltage during exposure only.



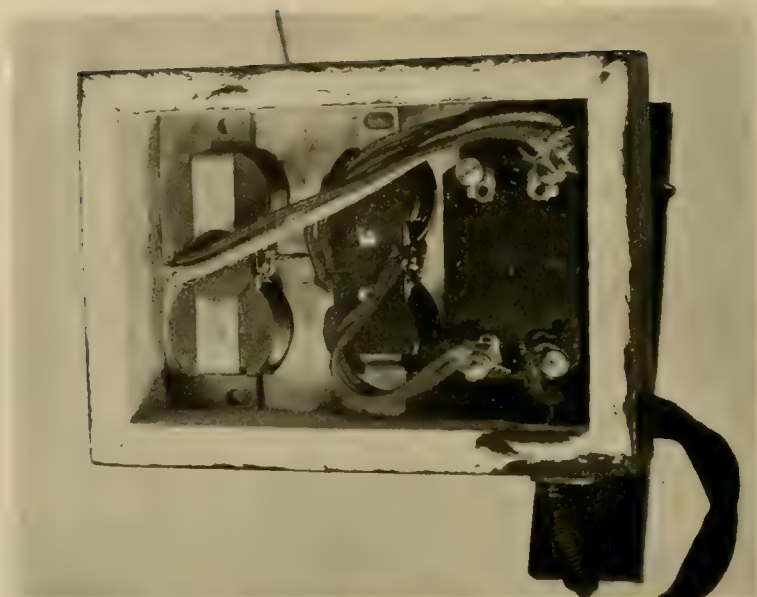
The completed switch.



Details of Switch Lever and Foot Pedal.

The only special item necessary is a "double-pole, double-throw" flush tumbler switch. This was found at a radio shop where it was salvaged from an old "A" and "B" battery combination, the kind used just before straight electric radios appeared on the market.

The rest of the items are pieces found in almost any workshop junk box. The switch plate used will probably have to be ordered from a supply house as it is an odd combination, having an opening for one switch and two outlets. A brass plate was secured because it would not break as easily as "bakelite".

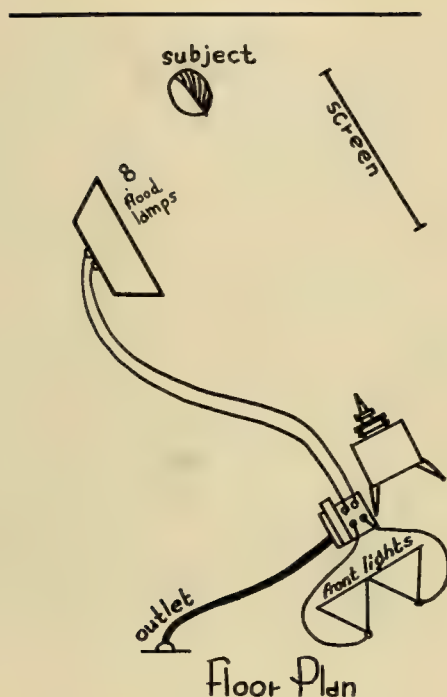


The wiring viewed from the under side of the Switch.

The accompanying illustrations should be self-explanatory. A wooden frame is made out of $\frac{1}{2}$ -inch by $1\frac{1}{4}$ -inch lumber of such size as to fit the switch plate. The outlets and switch are attached to the plate. A piece of hardwood (oak flooring) $\frac{1}{4}$ -inch by 7 inches was used for foot pedal, being mounted to switch box with a strap hinge. A piece of screen door spring fastened to back end of pedal holds it in "up" position. A small triangle is then cut out of $\frac{1}{16}$ -inch thick fibre. This, with a fulcrum, at a small brass angle screwed to the switch plate, forms link between foot pedal and switch lever. The connecting wire links can be plainly seen in the illustrations. It will also be seen that two holes were drilled for the wire link between pedal and fibre. This was done to find the best leverage.

In wiring the assembly, "heater" cord was used for the main line. The actual connections of switch and outlets are rather hard to illustrate or explain because of the construction of the flush switch. However, the connection is the series-parallel circuit with a double pole double throw switch. The switch used is actually a four pole switch, but by connecting the top terminals to the bottom ones on one end of the switch makes a double pole double throw out of it. Any electrician can quickly explain or make the connections. Care must be exercised so that the connection of the outlets is "series" when pedal is up and "parallel" when pedal is down. After connections are all made and soldered, a piece of fibre, cut to fit the box, may be tacked to bottom to cover the wiring.

In actual use the switch is placed handily under the tripod, the cord plugged into the main line. The cords from the various light groups are



then plugged into the outlets of the switch box. It must be remembered that the lighting load must always be evenly divided between the two outlets on the switch plate. This is very easily done. I use one bank of six lamps, with two cords, each carrying three of the lamps. More lamps may be added so long as they are in pairs. However it must be mentioned here that more than six lamps overloads the switch and outlet and may cause arcing at the switch terminals. However, for short periods they will easily carry this overload. Since it has been built, this switch has required no repair or attention whatever. Some may wish to use a regular knife switch, but I prefer a "snap" type, because it prevents "arcing".

All lighting equipment is set up and plugged "in". Lights will then all burn at half voltage and lighting effects easily noted. When all is ready, pedal is pressed down and exposure is made.

In photographing people it will be necessary to wait about six seconds after depressing pedal to allow sitter's eyes to become accustomed to extra brilliance.

Another useful feature of this switch is the fact that the outlets, when used singly, are always "open" or dead when pedal is up, but both are on full or closed when pedal is down. Thus it comes in handy for firing flash lamps.

This switch, used with flood lamps, seems to me to be the handiest and most economical lighting unit for all around use ever devised. I like it especially for photographing children, as it leaves both hands free to focus, etc. I am afraid I could not get along without it and I am sure anyone, in using just a little of his spare time to make one of these, will find it just as useful as I have.

Figurines As Teachers

William S. Davis

Part IV: Varied Results from a Single Pose

SINCE the human body is capable of assuming an almost infinite variety of attitudes the photographer is quite likely to overlook the full pictorial possibilities of a single pose—possibilities which can be brought out only when the model is viewed from different standpoints; lighted from different angles, and different portions of the figure utilized for compositional purposes.

By using a figurine (which cannot get "out of pose") one may observe at leisure the varied effects of linear form and distribution of tone produced solely by variations in viewpoint and lighting. Since so many combinations of these two factors are possible, together with the choice of how much is shown in the picture-space, there is ample opportunity for making a large number of instructive experiments which will provide a valuable background of knowledge to draw upon when working from life. It will, of course, be understood that the knowledge thus obtained pertains to principles of lighting and compositional arrangement, rather than to precise technical data connected with photographing a living model. With the latter, such matters as coloration and textures of flesh and draperies play a part in the



Figure 1



Figure 2



Figure 3



Figure 4

photographic rendition of tone and detail that differ somewhat from the properties of a plaster cast. In consequence, the *intensity* of illumination used should in every case be adapted to the contrast scale of the subject-matter before the lens to obtain the tonal quality one may have in view for the finished picture. Also, it may be noted that since the structural formation of different heads vary widely, the angle and concentration of the illumination needs to be modified to suit the type when the head is the outstanding feature. However, these points simply represent an intelligent application of basic principles to individual cases.

To suggest possibilities in the treatment of a single pose, we have chosen as the model the same maiden of Tanagra who served in the first article of this series, a graceful figurine in classic draperies.

Number 1 shows a full length three-quarter front position. The principal illumination came from a window to the right of, and in the same wall against which was placed, the background. Since the figurine stood well in front of the background, the light from the window fell upon it at an angle a little from behind as well as to one side. To obtain softer transition of tone and greater roundness of modeling in the figure, subdued supplementary lighting was utilized from a partly blocked out more distant window in the right-hand wall of the studio. The background consisted of two pieces of mounting stock of differing tones of drab. A sheet of glass was placed over the dark covering of the model stand to obtain the effect of a polished floor.

In Number 2 the figure has been turned three-quarter left, and lighted from a large oblong window in the wall to the left, the illumination coming from a lateral angle of approximately 45 degrees and considerably above the figure. The same background appears as in Number 1, but no glass covering was used on the model stand.

Number 3 gives us a full length three-quarter back view seen under



Figure 5



Figure 6

double lighting. This consisted of broad illumination from a wide North window to the left and at right angles to the figure, and a rather concentrated oblique lighting from a smaller and nearer window at the right in the same wall against which the background was placed, both windows being considerably above the figure. The result is to retain shadows in the deep folds of the drapery and parts of the head and arms, while the general contours on both sides are defined by the light.

Number 4 represents an interesting change of effect from practically the same angle of view as Number 3, obtained by doing three things, namely; altering the background to a perfectly plain sheet of light gray paper; making the study a three-quarter length arrangement of the figure and altering the character of the lighting. In this instance, two windows at the right were used, the main source being the one almost alongside the background, with the lower half blocked out to secure a higher angle of illumination, and another, cheese-cloth covered to secure more diffusion, at some distance to the right. In addition, local control was exercised to darken the lower portion of both background and figure by interposing between the light and figure a sheet of cardboard of suitable height to cut off some of the direct illumination. The degree of transition from partial shade into full light obtained in this manner is regulated by the distance at which the screen is placed from the figure, which is in turn determined by the intensity and concentration of the light. Such control is often required to definitely accentuate some part of an object or avoid an abrupt cutting off of a figure by the lower margin when less than full length is shown. In this particular study, the curves in the lower drapery sweep upward from the deeper tones near the base of the picture in a more effective manner than would be the case were all parts equally well illuminated. Also, added accent is given the back and arms, and the tonal stability of the entire composition increased.

Number 5 is as near to a profile rendering as the attitude of the figure



Figure 7

permitted without causing arms and head to merge into an awkward mass. While the figure tells dark against the light gray central portion of the background, no attempt was made to produce a pure silhouette, but, instead, subdued modeling and slight accentuation of parts by diffused light from the left side, together with a small beam of light thrown directly upon the figure from another source. An opaque screen of cardboard was so placed as to cut-off some of the light below and cast a diagonal shadow upon the background to relieve the formality of the dark vertical borders of the latter.

Number 6 should be compared with Number 1 to fully realize how the effect of a virtually identical angle of view may be changed by the compositional treatment and the lighting. In Number 6 we have the placement of an approximately half-length figure in the picture-space, shown *contre jour*, the main source of light being the sunny window, covered with several layers of cheese-cloth, which serves as background. The disposition of folds in the cloth was given careful thought to obtain the lines and tonal areas desired in building up the composition. Supplementary illumination from a distant window back of the camera kept the shadow-tones luminous.

Number 7 differs but little as to viewpoint from Number 2, but again we have a lesson as to what the method of treatment can do in altering the pictorial result. In addition to concentrating upon the head and arms, the figure was placed in direct sunshine to obtain the cast-shadow upon the background, which not only forms a marked tonal accent but, by its flatness, emphasizes the strength of modeling in the figure and repeats the contours of the latter with interesting variations. Space arrangement of figure and shadow within an oblong rectangle afforded an excellent exercise in composition.

While employment of daylight illumination suited my convenience in making this series of studies, all the effects shown, and more besides, can readily be produced by means of two movable sources of artificial light, together with a fair size diffusing screen of any thin translucent material and a sheet of cardboard that can be set up where needed for locally shading portions of the subject.

Cinema Section

Edited by

William A. Palmer

Wipes, Slides, Swipes And Zooms

WHILE the above title may sound like a description of the way many movie makers spray the landscape with their hand-held cameras, it really is a classification of transition effects in cine continuity. Some of the more common of these effects, which are the punctuation marks of moving pictures, were discussed last month. They were the fade-in and fade-out, the lap-dissolve, and the iris effects. Now we come to the fancier ones of the "wipe" family. All of these come under the heading of trick transitions and, when properly used, are very effective and spectacular. They are to film fare what french pastry is to our diet—very pleasant if not taken at the wrong time or in too large a dose.

Wipes

What are they? Wipes are transitions between two scenes in which a division line moves across the frame, apparently wiping off the first scene and leaving in its wake the second scene. The division line may move in any number of ways in the wipes that are used frequently in theatrical pictures. The division line may also be straight or have some special shape and again it may be sharply defined or fuzzy. In figure 1 are illustrated a few of the many types which are commonly used. The sketches represent frames in the middle of a wipe and the little arrows show the direction in which the division line is moving.

How to make them: Wipes for Hollywood productions and the more complicated ones for amateur films must be made on a special type of printer known as an optical printer. An optical printer for amateur use and the method of operating it was outlined in this department some time ago (*Camera Craft*, November and December, 1936 issues). It is only the very advanced workers who care to spend the time and money for an optical printer and, since there are a number of ways in which very presentable wipes can be made without elaborate special equipment, we will concern ourselves with just those methods.

The first method of making a wipe is one of the easiest, and can be put into films during the editing operation. This is a decided advantage, since we seldom can figure out the best places for wipes at the time the scenes are photographed. This method is really a long diagonal splice which extends over five to eight frames. The splice is not made with film cement, however, for it is found that such a long splice will buckle, and refuse to pass through the projector neatly. Transparent Scotch cellulose tape can be used, though, to make a splice which will project many times without difficulty.

Figure 2 illustrates the splice. The end of one scene should be cut in the

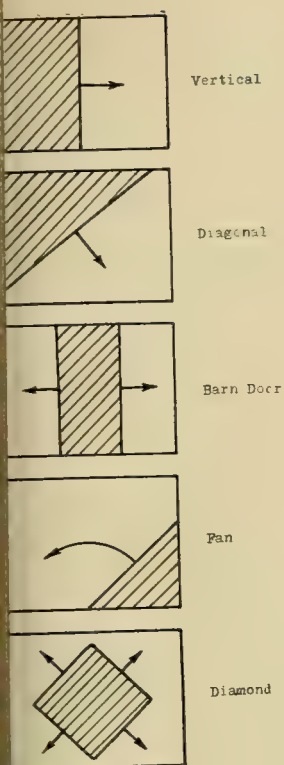


Figure 1.

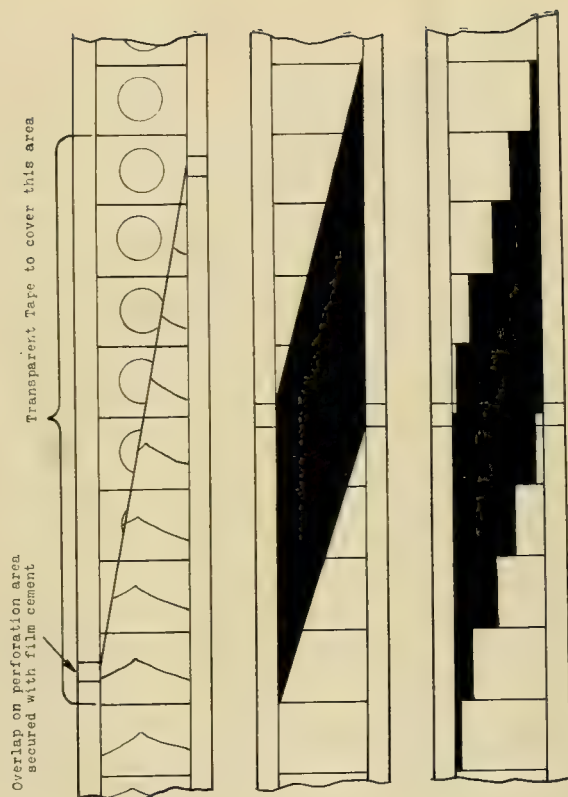


Figure 2.

Figure 3.

Figure 4.

form of the splice with the aid of a razor blade and a steel straight edge. The start of the second scene then should be laid on the register pins of a splicing block and the cut end of the first scene laid over it in the proper place for the splice. If one hasn't a splicer large enough to support the entire length of the splice, a register block can be made with very little difficulty by driving brads in a block of wood in the proper position for perforations. The brads should be about the same diameter as the width of a perforation so that after they are in place a little careful filing can shape them down to perforation dimensions.

With the cut end of the first scene laying over the start of the second scene, the diagonal should be very carefully traced across the picture area and the film cut along this line. Referring again to figure 2, notice that on the edges of the films along the perforation line, the two pieces of film are cut to have an overlap much like an ordinary splice. Along the main part of the diagonal, though, the films are to be laid together in a butt joint. With the two scenes thus laid in register, a piece of transparent Scotch tape is placed down the center of the film holding the two pieces together. The tape should be cut neatly to start and end at frame lines and should cover the entire width of the picture area. When the first piece of tape has been placed, the film should be turned over and another piece placed on the reverse side.

Then the two overlapping tabs on the perforation line should be secured. With the film on the splicing block emulsion up, carefully lift the overlaying film

and scrape the emulsion off the lower piece just as you do with a normal splice, then apply a little film cement and press together until it is set.

This type of wipe, made with cellulose tape, will appear on the screen as a diagonal wipe but, of course, has not the smoothness of one made on an optical printer. The Scotch tape can be noticed slightly on projection, but is not objectionable unless one watches for it.

Another method of making a wipe also uses Scotch tape of the cellulose variety except that the tape is opaque instead of transparent. In this method, the two scenes are first spliced together in the normal manner and then long triangular strips of black Scotch cellulose tape are cut and stuck onto the film as shown in figure 3. It would be possible to cut one piece of tape of the proper shape to go on both sides of the splice, but it will be found more convenient to use two separate pieces, joined at the splice. The tape, of course, must not extend over into the perforation area to cover up any perforations.

The effect on the screen of this last method, which is really only a semi-wipe, is remarkably good. As can be seen in figure 3, there is no overlapping of the two scenes as in the case of a true wipe. Yet, when they are projected, the eye and brain are fooled into thinking that the two scenes are on the screen at the same time for part of the wipe. It gives the illusion of a normal wipe with a wide black division line.

The same illusion occurs in another method of making wipes in the camera as the scenes are photographed. With this system, the first of the two scenes, which are to be joined with a wipe, is ended by moving a black card across in front of the lens until the scene is obscured. The camera is stopped and the next scene started with the card in front of the lens. The card is then moved out of the way with a motion in the same direction as the end of the previous scene. If the first scene was ended with the card being brought in from the left side and closing off the scene from left to right, the next scene should be opened with the card still moving from left to right until it leaves the scene at the right side. A matte box with a slide in which the card can be moved is a great help for this effect.

If one is so fortunate to own a camera that will reverse, he can make a real wipe by backing up the film between scenes for the distance that the "wipe-off" card appears on the scene. When the next scene is started and the "wipe-on" is performed, a first rate effect is produced. These wipes, made by moving a black card in front of the lens, are of the fuzzy division line type, since the edge of the card is usually within four to eight inches of the lens and is therefore pretty much out of focus. This out of focus is an advantage if the film is wound back between scenes because it is then not necessary to have an accurate match of the card movement between scenes. The matching of the movement of the card in "wiping off" and "wiping on" is best done by one of the several devices that are on the market which have the movement of the card geared to the mechanism of the camera. Needless to say the card can be moved in any direction, either from one side to the other or from top to bottom and vice versa.

The advantage of the scene wiped on and off while it is being photographed, and when the camera is not reversed, is that the order of scenes can be changed at will later in the editing, whereas if a true wipe is made those two scenes must remain together in the order in which they were taken. As shown in figure 4, the splice is made just before the "wipe-off" is complete and just after the "wipe-on" has started.

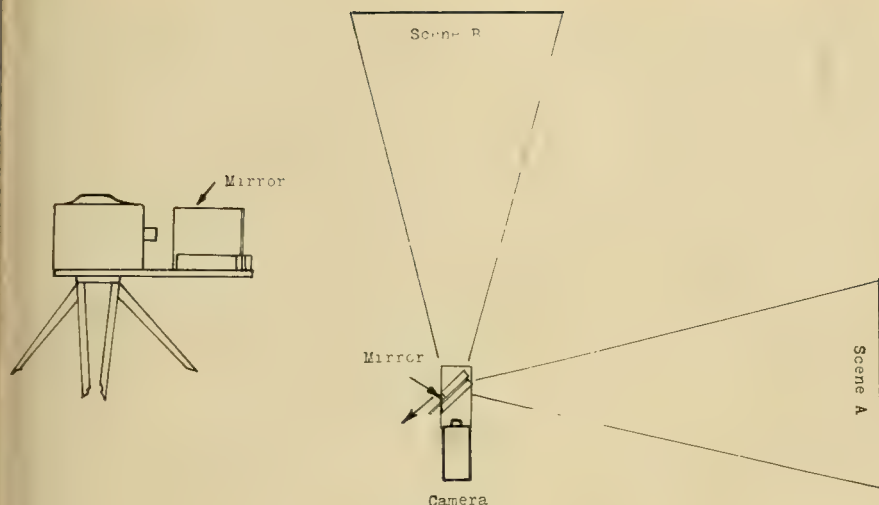


Figure 5

Another very simple method of making very professional looking wipes, even when the scenes are being photographed, is by the use of a mirror as shown in Figure 5. The method unfortunately is only applicable to scenes which can be set up simultaneously to be shot from the same camera position. As shown in the illustration the two scenes can be viewed from the same point, one with the line of division at right angles to the line of vision of the other. The camera is mounted on a tripod with a board extending from underneath the camera out in front for about twelve inches. The board can be plywood not over a quarter inch in thickness so that the tripod screw can extend through the board and still catch the tread of the camera. Two guide strips are fastened on the board at a 45 degree angle as illustrated to hold a piece of plate glass mirror. The strips, about two inches high, can be spaced so that the mirror will slide freely between them but also be held upright. The camera must be mounted horizontally with respect to both horizons of the scenes. In performing the wipe, it is only necessary to start with the camera trained on scene A and the mirror in place and then for the wipe, merely withdraw the mirror, as shown by the arrow, to disclose scene B. The mirror naturally must be of good quality and unframed and is better if of the "first surface" variety, although this is not absolutely necessary.

Slides

Slides are somewhat like wipes except instead of a division line wiping the scene off, the scene itself seems to slide off the screen and another scene drops down in its place. The effect can be done on any camera equipped with a rotating turret and is accomplished as follows: The first scene is photographed and at the end, before the camera is stopped, the turret is turned so that the lens taking the scene is moved up away from the taking position. As soon as the lens is out of the way the camera is stopped. The next scene is then set up and the camera is started with the lens turned so as to be *below* the taking position and then the lens is moved up to the right place to complete the effect. (Note: On some cameras the mechanism cannot be started unless the lens is in taking position. This can be gotten around by putting the lens in taking position and then de-

pressing the starting button part way but not far enough to start the camera. The lens can then be turned out of the way, the button put down all the way to start the mechanism, and the lens moved back up in position.

Swipes

Swipes are very effective transitions and are extremely easy to do. They are really very fast panoramas connecting two scenes and are made as follows: The first scene is photographed normally with the camera preferably on a tripod. At the end of the scene when the effect is to start, the camera is given a quick panorama to one side or the other. The camera is moved so fast that all the details of the scene become a hopeless blur. The camera is stopped after it has been swished through about a ninety degree arc. The next scene is gotten ready and the camera started moving in another swift pan in the *same direction* as before and stopping abruptly as it centers on the subject. When the two scenes are processed, they are spliced together where both pans are a complete blur and the result on the screen is the impression that the camera makes a continuous swish from one scene to the other. This is the one time when a fast pan is permissible and its dizzy blur a help.

Zooms

Zooms are also a fairly simple effect to produce but they require a camera dolly so that the camera can be moved quickly from an ordinary shot up to an extreme close up while the scene continues. A toy wagon or a tea cart can very often substitute for a camera dolly with success. The idea of a zoom transition is applicable when there is a shift of location but the same subject is retained. For example, one sequence might show Dad showing a couple of tickets for the coming baseball game to his young son. The camera would zoom from a medium close-up of Dad holding the two tickets to an extreme close-up of the tickets. The camera apparently would move back immediately to show Dad with son holding the tickets but standing in front of the stadium. The fact that there would be a cut from one extreme close-up of the tickets to another taken at a different location would hardly be noticed, but the zoom up and back would cover a lapse of time nicely.

Questions and Answers

Question: What is the Weston film speed rating for positive film?

Answer: Depending upon the make of film, the emulsion speeds are usually given as 1 or 2 in daylight and $\frac{1}{2}$ to $\frac{1}{4}$ in mazda. However, when using positive film for direct titles the film speed to use depends very definitely on the developer. For direct titles a high contrast developer such as D 11 or D 19 is necessary and because of the developer's high energy, a film speed of about Weston 4 and a reading taken on the white title card will give fair results. With different degrees of development any exposure meter reading for direct titles is apt to be inaccurate and the best solution is a series of tests. Always make a series of short scenes at each of the different stops, develop all to some fixed time and choose the best for other title exposures to be developed in the same manner.

Question: Can Univex film be developed as a negative for direct titles?

Answer: No. The Univex film has an opaque anti-halo backing which is automatically removed in the reversal process but which will make a film, developed as a negative, completely opaque. Double 8mm positive film and an inexpensive slitler will solve the problem for the Univex owner who wants to make direct titles. The film must be slit and loaded in a red safelight, of course.



"Mikic and His Shadow"

Richard Fuchs

Advanced Medal Print

■ This in its essentials is purely and simply an action shot. All of us have seen hundreds of action pictures which the critics say are not successful pictorial photographs, even though the action has been well recorded. In most cases we think they are right. What, then, makes this picture successful from the pictorial point of view? As we see it there are two main conditions which are primarily responsible. First, it is clearly evident that the picture contains definitely humorous elements. The spider-like attitude of the climbing figure, together with the grotesque shadows are certainly amusing. Second, the composition is simple and it enhances, or plays up to, the action shown. The sharp diagonal line of shadow at the left surely suggests movement, and this shadow also serves to break up what would otherwise be a monotonous expanse of white wall. The zig-zag shadow cast by the left leg is violently active. It is clear therefore that the shadow forms help to pep up the action, and break up the picture space into a satisfactory distribution of lights and darks. We see therefore, that it is action, enhanced by

(Continued on page 193)



"Portrait Study"

*George Forrester
San Francisco*

itself. Third, such bits of space tend to suggest that the figure is crowded over to one side, especially when the direction of the glance is toward that same side as is the case here.

Data: Leica; 90 mm. Elmar F:4; $\frac{1}{8}$ th sec., at F:4, on Du Pont Superior in G. D. X.; by two 500 W. T-20 bulbs in reflectors. $4\frac{1}{4} \times 6\frac{1}{4}$ " print on Gevaert Gevaluxe, in Amidol.



*Thad Hlodnicki
Chicago, Ill.*

Second Award Advanced Class

■ Here we find one more example of the fact that photography is just about at its best when presenting good clean-cut straight-forward portraiture. Such portraiture becomes pictorially interesting when it appears to have caught the personality of the sitter. The merits of the picture are obvious, so we confine our comment to two small details of posing. The picture would be slightly improved if the coat had been pulled down so that the coat collar would not ride quite so high on the neck. The collar now appears to be crowding the face and we suspect that the left side of the face would be shown to slightly better advantage if more of the neck line were shown. Our second point has to do with the small space between the figure and the side of the print in the lower left. As a general thing it is better to fill such space in by adjusting the pose, this for three reasons. First, when the space is filled in the picture has a broader and consequently a firmer base in support of the head. Second, it is seldom, if ever, desirable to have an unnecessary bit of open space in any picture. This becomes especially true when the space in question is in one corner of the print, when it is sharply contrasted with an adjacent tone, or when it is either a very light or very dark tone in

Third Award Advanced Class

■ Many readers, we imagine, look at the pictures presented in this department and wonder why a similar picture of their own has not been equally successful. That probably happens more often when the picture is made up of common-place subject matter, as is the case here. Let us take a brief look at the several elements which in combination make this a satisfactory picture. The camera position has been selected so as to give some variation, through perspective, to the strictly geometrical form of the window. That viewpoint also presents the background to advantage. There are no distracting elements in the background, and no elements which conflict or compete with the lines of the window. The lighting has also been chosen to contribute some variation since the verticals on the right are strongly illuminated while those on the left are not. Observe also that this lighting establishes a dominant center of interest, in the strongly lit portions of the window frame. Note that

(Continued on page 193)

Fourth Award

Advanced Class

■ There is a delightful variation of spacing between the trees shown in this picture. Such variation is, of course essential if a monotonous, mechanical effect is to be avoided. It is achieved by careful selection of the point of view. Moving the camera to the left or turning it to the left will widen the spacing on that side and vice versa. Observe the importance of the space allowed on the left. If this is removed the trees appear terribly crowded in the picture space. Some may feel the roadway which cuts the left edge of the print has a tendency to lead the eye out at that point. We cannot see that this is the case. Whether a line will lead the eye in or out of the picture depends on several factors, but chief among these is the direction in which the eye is moving when it encounters the line in question. Here the eye is moving into the picture when it encounters the roadway. The second most important factor has to do with whether or not there are other elements pulling the eye into the picture. The diagonal line of the mountains, and the upward sweep of the clouds perform that function admirably in this print.

Data: 9 x 9 cm. Mentor Reflex; Zeiss Tessar F:4.5; Foma film developed in M. Q. 8½ x 11¼" print on E. K. Bromesco. Prints may be obtained at the price of \$6.00 upon application to Camera Craft.



"Parallels" Milan Fuzy, Jugoslavia

Fifth Award

Advanced Class

■ The feeling of sunshine, the out-of-doors, and the joys of the surf are all beautifully recorded in this picture. In addition to that it functions as excellent outdoor portraiture. One could hardly ask for a more pleasing informal portrait. The photographer is often hard put to it to control the horizon line or the line of the surf, when shooting at the seashore. A horizon line which cuts across the top of a print is a disadvantage unless it can be related to the rest of the picture. When a shot is made parallel to the beach the line of the surf often wanders on interminably, in many cases coaxing the eye away from the principal interest. Mr. Titcomb has avoided both these difficulties admirably, by adopting a slightly elevated point of view. Notice how splendidly the upper part of the picture is controlled by the darker tones of the water, and how the figure is thrown into brilliant relief by being outlined against the white of the surf.

Data: Zeiss Super Ikonta B; 80 mm. F:2.8 Zeiss Tessar; 1/50th sec., at F:11, on Agfa Superpan, with Zeiss GR-5 filter; about 10:30 A.M. in August; 11 x 14" print on Agfa Brovira Velvet.



"Sun and Sea" John B. Titcomb Binghamton, N. Y.



"Mrs. Ito and Son"

Alice G. Atwood

Amateur Medal Print

■ It is no easy task to organize two heads into a satisfactory portrait arrangement, but Miss Atwood has solved that problem in most successful fashion. The merits of the picture seem obvious so we would like to confine our comment to some small details which we feel require adjustment. It should be possible to obtain a slightly better flesh tone by working for a little softer print and printing a shade deeper. We agree with the idea that the upper left corner of the print needs something to fill it in, but think that this form (the lettering) should carry somewhat further to the right so as to conform more to the shape of the space it is intended to break up. A detail not apparent to the reader is the lettering of the title and signature. This lettering is bold and approximately one-half inch high. We would strongly advise that both title and signature be made as unobtrusive as possible. The mount is intended as a background for the picture so that it may have space in which to assert its individuality. It is distinctly a mistake to turn the mount into a signboard.

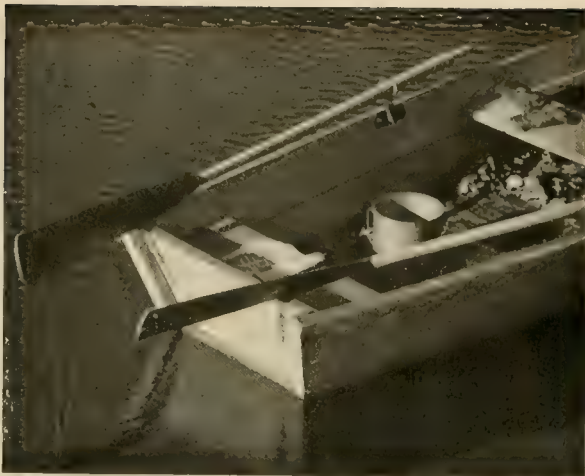
Data: Rolleicord; Zeiss Triotar F:4.5; 1/25th sec., at F:4.5, on E. K. Panatomic, in D-76; print size 8 x 10".

Second Award

Amateur Class

■ Here is a very simple picture that is successful primarily because it records the play of sunlight over boat and water so beautifully. It does not seem to us that the average amateur photographer maintains anywhere near a sufficiently high technical standard in his work. Judges must and should consider the technical quality of a print as extremely important in determining its acceptability. Occasionally one hears criticism of a juror as being "obsessed with technique." One also hears that technique is not nearly as important as "what a picture has to say." These attitudes only half fit the facts and consequently are misleading. A picture may contain a good idea, good subject matter and good composition; in other words it may have plenty to "say." But if these elements are muddled and veiled because of poor technique, the message is lost. Good technique then, helps to make a picture articulate; helps to make the idea behind a picture clear, and easily understood by the observer. It is so easy to attain technical competence with modern equipment and materials that it is truly appalling to witness the great volume of poor prints which are continually being turned out.

Data: 9 x 12 cm. Eastman Recomar 33; 135 mm. Kodak Anastigmat; 1/50th sec. at F:8, on E. K. S.S. Pan film pack, in D-76; no filter; 10:30 A.M. in October; 8 x 10" print on Gevaert Gevaluxe, in Gevaert GD-61. Prints may be obtained at the price of \$5.00 upon application to Camera Craft.



"Rested Oars"

*C. R. Barthelemy
Granite Falls, Minn.*

Third Award

Amateur Class

■ This picture admittedly appears rather "busy." There is quite a lot of material crowded into the foreground. It is possible to justify such a condition in this case, however, on the grounds that the clutter shown is one of the characteristics of poverty, and is therefore essential in conveying the idea which the photographer had in mind. That contention seems justified but if we permit ourselves to follow it in composing a picture we must be very careful about two things. First, we must be sure that we make our center of interest even more dominant than would be required ordinarily so that it will surely stand out in spite of the clutter, as it does in this case. Second, we must search our souls with great frankness to make sure that we're not "kidding" ourselves. Do we really have to have the clutter? Is it not possible to tell the story just as effectively with simplified material? There is always a compelling temptation to rationalize our compositions. To tell

(Continued on page 194)



"Poverty"

*Milan Freund
Jugoslavia*



"Powder Snow"

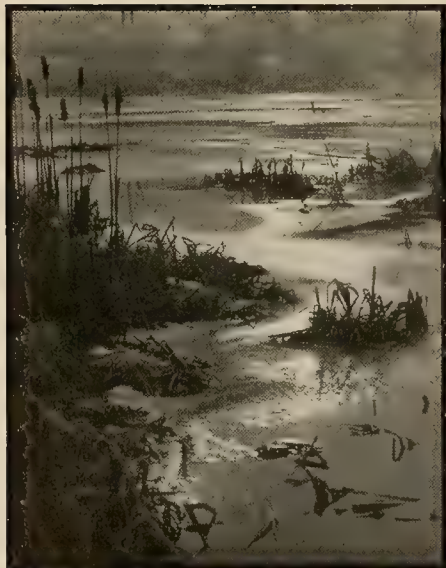
*Gordon M. Tranter
Calgary, Canada*

Fourth Award

Amateur Class

■ Good action and fine snow texture combine to make this an interesting picture. Observe how the composition is subtly enhanced by the two deep tracks in the snow which shoot the eye up to the figures, and by the fact that the figures diminish in size from right to left because of their varying distance from the camera. This picture would be completely spoiled if the figures were all equi-distant from the camera and spaced evenly across the print. Many beginners make the mistake of printing snow scenes much too light. The snow tones in this picture are nicely printed. Notice how very dark they are in some parts and notice particularly that there is a definitely perceptible tone in even the brightest parts of the snow.

Data: Rolleiflex; Zeiss Tessar lens; 1/100th sec. at F:5.6, on Agfa Finopan in DK-76; medium yellow filter; 4:30 P.M. in February; 11 x 14" print on Agfa Portrait Enlarging Fabric Rough, in D-72; blue toned.



"Sunset-Shaker Lake"

*Henry M. Mayer
Lakewood, Ohio*

Fifth Award

Amateur Class

■ There is a truly delightful play of light in this picture while the curving forms of ice and water contrast beautifully with the clumps of rushes. We want the eye to travel in lingering fashion along the pathway of light. Since that is an essential objective it seems to us that the material in the extreme foreground tends to hinder that movement to too great an extent. The eye really has difficulty in getting past the foreground so that it may move on into the picture. We think the picture is more easily seen if we trim from the bottom until almost all of the patch of water in the lower right is eliminated. We can then trim a little from either side to re-establish desirable print proportions. Try it and see if you agree.

Data: 4 x 5" Graflex; 7¼" lens; 1/10th sec. at F:11, on E. K. Pan., in D-76; 5 P.M. in December; 11 x 14" print on Agfa Brovira Royal, in D-72.

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Thad Hlodnicki, for the Fort Dearborn Camera Club; Rikard Fuchs, and Milan Fuzy, for the Fotoklub Zagreb, and George Forrester, for the Photographic Society of San Francisco.

The following won prizes for their clubs in the Amateur Class: Gordon M. Tranter, for the Calgary Photographic Society; Henry M. Mayer, for the Cleveland Photographic Society; Milan Freund, for the Fotoklub Zagreb, and Alice G. Atwood, for the Taft Camera Club.

The following prize winners have no club affiliations: John B. Titcomb and C. R. Barthelemy.

Contributing Clubs

Aluminum Camera Club (New Kensington, Pa.)	Fort Dearborn Camera Club
Amherst Camera Club (Mass.)	Fotoklub Ljubljana (Yugoslavia)
Calgary Photographic Society (Canada)	Fotoklub Zagreb (Yugoslavia)
The Camera Clique (St. Louis, Mo.)	Fresno Camera Club (Calif.)
Camera Club of Richmond (Va.)	Lancaster Camera Club (Pa.)
Camera Pictorialists of Columbus (Ohio)	Norfolk Photographic Club (Va.)
Cleveland Camera Guild (Ohio)	Photographic Society of San Francisco
Cleveland Photographic Society (Ohio)	Saskatoon Camera Club (Canada)
Cleveland Photographic Society Miniature Group (Ohio)	Sierra Camera Club (Sacramento, Calif.)
Denver Lensmen (Colo.)	Tasope' Camera Club (Aurora, Mo.)
E.P.I.C. Pool of San Francisco	Toledo Camera Club (Ohio)
Florida Camera Club (Tampa, Fla.)	Triangle Group (Cincinnati, Ohio)
	Vancouver Camera Club (B. C., Canada)

STANDING OF CLUBS

Large Clubs Advanced Class		Large Clubs Amateur Class	
Fotoklub Zagreb	14	Camera Club of Richmond.....	5
Fort Dearborn Camera Club.....	13	Miniature Camera Club of Oakland.....	4
Fotoklub Ljubljana	6	Fotoklub Zagreb	3
Photographic Society of San Francisco	4	Cleveland Photographic Society.....	2
Miniature Camera Club of New York....	1	Small Clubs Amateur Class	
Small Clubs Advanced Class		Taft Camera Club.....	14
Denver Lensmen	11	Lancaster Camera Club.....	5
The Pack Rats.....	9	Riverside Pictorialists	4
		Calgary Photographic Society.....	2
		Cleveland Photographic Society Minia- ture Group	2
		Norfolk Photographic Club.....	1

(Continued from page 187)

humor, plus good composition that makes this picture successful. We believe that there is a bit more sky area than is necessary, and would trim away about half the distance from the top of the wall to the top of the print.

Data: 6 x 6 cm. Rolleiflex; F3.5 Tessar; 1/300 sec. at F:9, on Agfa Isopan, with yellow filter; 11 x 15" print on Agfa Brovira, in M. Q. Prints may be obtained at the price of \$6.00 upon application to Camera Craft.

(Continued from page 188)

in this case the vista in the background is definitely subordinated to the window. The vista is clearly a secondary interest. In other pictures this relationship might be reversed, but it is essential that one or the other of the two elements must dominate. Finally the picture has been well photographed so that the luminous quality of the light is evident in the print. This luminous quality is highly important in eliciting the desired emotional response from the observer. It is not a bad idea to check your own pictures, in some such fashion as this against an outstanding picture of similar content whenever one can be discovered.

Data: Vollenda; E. K. Panatomic, in DK-76, with Wratten A filter; 11 x 14" print on E. K. Vitava Projection G-3, in D-72.

(Continued from page 191)

ourselves that we are deliberately violating this or that rule to achieve a desired effect, when in reality we are only being lazy. It is far from easy to be objectively critical of one's own work, but the nearer you can come to that goal the better your pictures will be.

Data: 6 x 9 cm. roll film camera; Gevaert Pan in M.Q. 9½ x 11½" print on E. K. Bromesco. Prints may be obtained at the price of \$6.00 upon application to Camera Craft.

Notes and Comments

Arizona Pictorialists' Print Collection Available

The Southwestern Print collection of Arizona Pictorialists, now on exhibition within the state will be available for showings by other camera clubs after April 1.

The beauty of the desert lands of Arizona, its Grand Canyon, Indian and Mexican characters, unique cactus growth and other varied subjects, of this delightful section of America, have been caught by these serious workers. Fifty prints have been selected for the traveling Southwestern Print collection.

Interested clubs may write C. M. McMillen, Sec., Arizona Pictorialists, Rt. 1, Box 601-J, Phoenix, Ariz.

New Courses by P. Douglas Anderson Announced

New courses for photographers, amateur and professional, will be given for the University of California's extension division, by P. Douglas Anderson, F.R.P.S. The courses will be given in San Francisco, at 540 Powell Street, and in Oakland at 1730 Franklin Street.

San Francisco courses are:

Photography: Principles and Practice—Mon., March 21, 7 p.m.

Miniature Cameras—Tues., April 12, 7 p.m.

Pictorial Photography—Pictorial Principles and photographic applications—Thurs., March 24, 7 p.m.

Oakland classes are:

Miniature Cameras—Wed., March 23, 7 p.m.

Photography: Principles and Practice—Fri., March 25, 7 p.m.

The Extension Division also announces that Mr. Anderson will conduct photography field trips in Yosemite Valley this summer. The organization meeting for these trips will be held Monday, June 6, 7 p.m.,

at 540 Powell Street. The trips will be offered in two sections. Section A will be held from July 11 to July 16; section B from July 18 to July 23. Trips for section B will be planned to avoid repetition for those who take both sections.

Agfa President Publishes Collection of Photographs

It has been CAMERA CRAFT'S pleasure and privilege to receive a copy of PICTORIAL AMERICA, a collection of photographs made by Dr. Ernst Schwarz, President of Agfa Ansco Corporation.

Dr. Schwarz is an enthusiastic amateur photographer and on his many trips throughout the country during the last few years his camera has been a constant companion. The pictures in this growing collection were coveted by his many friends and at their suggestion and constant urging Dr. Schwarz published a selected few in book form.

We must thank his friends, as well as Dr. Schwarz himself, for without their interest PICTORIAL AMERICA would not have been published. PICTORIAL AMERICA contains 57 beautiful pictures of the American scene, presented in a book 11 x 13 inches in size, by printing of unusual excellence.

Unfortunately for the many who would be delighted by this book, only a limited edition has been printed for private distribution. CAMERA CRAFT again expresses its thanks to Dr. Ernst Schwarz and the Agfa Ansco Corporation for this lasting gift of beauty.

Kodak International Exhibit For 1938 On Tour

The Kodak International Exhibit for 1938 includes more than 200 prints contributed by photographers throughout the world as well as an exhibit of modern pho-

tographic equipment and demonstrations of the new Sound Kodascope Special.

During the coming month the following cities in the East and Middle West will be privileged to see this excellent exhibit: Pittsburgh, Pa.—The Cardinal Room of the William Penn Hotel, March 26th to 29th; Washington, D. C.—The Promenade of the Mayflower Hotel, April 1st to April 5th; Detroit, Mich.—The Michigan Room of the Statler Hotel, April 8th to 10th; Chicago, Ill.—Private Dining Rooms 15, 16 and 17 of the Palmer House, April 12th to 16th; Milwaukee, Wis.—Mezzanine of the Pfister Hotel, April 19th and 20th; Indianapolis, Ind.—Chateau of the Claypool Hotel, April 23rd to 25th; St. Louis, Mo.—Parlor A of the Statler Hotel, April 28th to 30th; Columbus, Ohio—Mezzanine Lounge of the Neil House, May 3rd and 4th; Cincinnati, Ohio—Italian Room of the Gibson Hotel, May 7th to 9th.

For further details enquire at your local Eastman Kodak Store or write the Eastman Kodak Co., Rochester, N. Y.

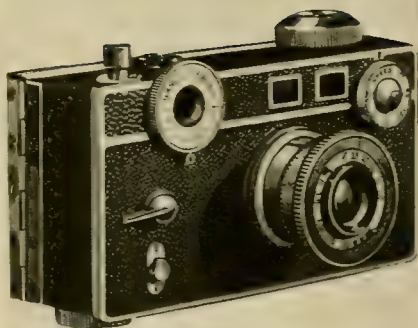
DuPont XL Pan

The DuPont Film Mfg. Corp., announce their new XL Pan, a high speed, fully panchromatic 35mm. film, requiring half the exposure of the well-known DuPont Superior Pan. The tremendous increase in speed has been obtained without sacrifice of the qualities that made DuPont Superior Pan so popular. An increase of approximately 30 per cent in developing time is indicated by tests made in standard developers, by the manufacturers.

XL Pan is priced at \$1.00 per daylight loading cartridge for Argus, Leica, Retina and similar cameras or daylight loading spool for Contax and other Zeiss Ikon 35mm. cameras. For the present this is the only form in which XL Pan will be available.

The Argus Model "C"

The International Research Corporation announces the new Argus Model "C" which incorporates many new features and improvements. It is equipped with an Argus Citar f3.5, 50mm. lens, a triple anastigmat that is fast and sharp. The lens is quickly interchangeable and a series of different type lenses are to be available as additional equipment. The Model "C" Micro-matic Shutter has a range of ten speeds



Argus Model C

from 1/5 second to 1/300 second, including bulb. The view finder and range finder are built into the camera which is sturdily constructed and beautifully finished.

The Argus Model "C" is offered at the amazingly low price of \$25. See it at your dealer's or write for further details to the International Research Corp., Ann Arbor, Mich.

Eastman Professional Demonstration in San Francisco

All professional photographers and their employees are invited to attend the Eastman Professional Demonstration to be held in the Hotel Empire, Leavenworth and McAllister Sts., San Francisco, on March 31st and April 1st.

Eastman specialists will cover all major photographic subjects with lectures and demonstrations. Some of the important subjects are operating, posing, lighting, commercial illustration, advertising, printing, masking, mounting and coloring.

No professional can afford to miss these all-important demonstrations, so be sure to save those dates—March 31st and April 1st. Further details may be had at the Eastman Kodak Stores, 216 Post St., San Francisco or 1918 Broadway, Oakland.

Correction

In our February issue, comment was made on the F-R Adjustable Roll Film Tank, which may be adjusted to fit roll films from a 36-exposure roll of 35mm. film to No. 116 size. The F-R Tank is manufactured by the Fink-Roselieve Co., Inc., and their address was incorrectly

listed in that issue. Communications regarding the F-R Tank should be sent to the Fink-Roselieve Co., Inc., 109 West 64th St., New York, N. Y.

Burke & James New Catalog Ready Now

Burke & James, Inc., announce their new 72-page catalog, listing endless bargains in cameras, accessories and supplies as now ready for distribution. Your copy will be sent free, upon request.

Miniature camera enthusiasts will be interested in another new Burke & James item. It is a 35mm. special film winding device which can be loaded in the dark-room with 50 or 100 feet of 35mm. film; then in daylight one can load their 36-exposure clips at will.

For your copy of the new catalog or for complete details on the new film winder write Burke & James, Inc., 223 West Madison St., Chicago, Ill.

Two New Photoflash Lamps Announced by General Electric

Development of two new photoflash lamps—one of extremely small size; both designed to produce a relatively long period of flash—has just been announced by General Electric's Incandescent Lamp department at Nela Park, Cleveland.

Each of the new lamps is expressly designed to meet new needs occasioned by the recent introduction of newer photographic materials and revolutionary practice in the photo field.

The smaller of the new photoflash lamps—smaller than the ordinary 15-watt household lamp and less than one half the size of the smallest G.E. photoflash now in use—is designed for news photographers, professionals and amateurs. It is so small, in fact, that as many as eighteen of these little bulbs can be carried on the person at one time. Filler within the bulb consists of a small amount of aluminum wire and aluminum foil. Employing a quick-breaking filament, the new smaller lamp requires very little current to set it off, thereby conserving the life of batteries employed.

The other new photoflash lamp—identical in size with G.E. Mazda Photoflash No. 10—is also designed for news photographers and others. Unlike the other new lamp, however, this larger flash bulb contains no wire. It is filled with aluminum foil so treated that the flash produced is

both longer and brighter than that from the present No. 10 lamp.

The smaller of the two new lamps is designated as G.E. Mazda Photoflash lamp, No. 7; the larger as No. 15. List price of each is 18 cents.

Addition of these two lamps extends the G.E. standard line of photoflash lamps from three units to five.

The Precis 44 Enlarger

The market for enlargers is expanding so rapidly that every day sees a new one offered to the photographic public. The



Precis 44 Enlarger

Raygram Corporation, New York, announces their entrance into this field with the Precis 44 Enlarger.

Here is a rigidly constructed enlarger designed along scientific lines which guarantees uniform lighting from edge to edge and shockless focusing at every touch of the focusing wheel. It has a negative holder, which is a metal-glass combination pressure holder accommodating negatives up to 4x4 cm.

Here are some of the specifications:

Magnification—Enlargements up to 9x14 inches can be obtained on the baseboard.

Condensor System—Single condensor 2½ inch.

Baseboard—Specially seasoned plywood, polished, balanced by rubber legs size 16x15¾ inch.

Focusing—Rough or preliminary focusing by means of friction wheel on vertical post, microcritical focusing by means of turning a helical oversized tube in which the lens is mounted.

Red Filter—Attached to focusing gear post.

This enlarger is mounted on a special large post measuring 27 inches, which permits large enlargements without turning of the enlarger itself.

Price complete—\$45.00.

Due to an error a cut of the negative carrier for the Precis 44 appeared with an item about the Maxim Exposure Meter, on page 140 of the March issue. Interested parties may wish to refer to it there.

For further details write the Raygram Corp., 425 Fourth Ave., New York, N. Y.

Swing A Ring

The Swing A Ring is a new tripod head that makes it possible to obtain the most difficult angle shots. Swing A Ring pans, tilts and swings offering the photographer the choice of any desired position. Devised for miniature cameras, up to and including 2¼x3¼ inches, the Swing A Ring is light but sturdily constructed. (See the illustration in the advertising section.) Swing A Ring is supplied for \$1.00, postpaid, by Lyon's, 236 State St., Schenectady, N. Y.

The "Wesco" All-Purpose Visual Exposure Meter

Western Movie Supply Co., announce the "Wesco" All-Purpose Visual Exposure Meter. The "Wesco" Meter is a celluloid device of 3 superimposed discs. In operation, one sets the type of film opposite the light conditions prevailing and then sets



the time of the day and the month opposite either the lens opening to be used or the shutter speed to be used, as is desired. The outer disc carries a series of small pictures which visually show the possible

types of subject matter which may be photographed. Once the meter is adjusted as described above, all that the photographer need do is to select the type of picture which he is taking from the series mentioned above and read off the exposure settings for that type of picture.

The "Wesco" Meter is all-purpose and will give surprisingly accurate readings day or night, indoors or outdoors, for stills or movies, in color or black-and-white photography, and with photo flood and photo flash lamps.

The "Westco" Meter sells for \$1.00 and may be seen at your dealer's or further details may be had by writing the Western Movie Supply Co., 254 Sutter St., San Francisco, Calif.

Robot 1938 Prize Contest For Photo Employees and Dealers Begins March First

In order to better acquaint photographic dealers and their salespeople with the Robot Camera, the Intercontinental Marketing Corporation announces the Robot 1938 Prize Contest. This contest begins on March 1st and ends on May 31st, and is open to all employees of photo shops in the United States, U. S. Possessions and Canada. The following prizes will be awarded:

- 1st Prize—Robot with Zeiss Tessar, F2.8 lens, complete with Eveready case\$158
- 2nd Prize—Robot with Meyer Primotar, F3.5 lens, complete with Eveready case 128
- 3rd Prize—Cash award 25
- 4th Prize—Photrix Electric Exposure Meter, with leather case..... 15
- 5th Prize—Photrix Electric Exposure Meter, with leather case..... 15
- 6th Prize—Photrix Electric Exposure Meter, with leather case..... 15
- 7th Prize—Cash award..... 5
- 8th Prize—Cash award..... 5
- 9th Prize—Cash award..... 5
- 10th Prize—Cash award..... 5

In addition to the above, there will be special prizes for dealers. Those dealers whose employees have been awarded the first two prizes will be given an award of \$50 in cash to be used by them in advertising the Robot in any of the photographic magazines, or in a local newspaper.

Judges in the Robot 1938 Prize Contest are as follows: Herbert McKay, Kip Ross, Karl Barlaben, Edwin M. Phillips, and Berthold C. Behrendt. For entry blanks and complete details, write immediately to the Intercontinental Marketing Corporation, 10 East 40th St., New York City.

Free Booklet on Photographic Make-Up

MINER'S, INC., well known-cosmeticians for over 70 years, are now offering a special booklet "Making Up For The Camera." It explains in detail what make-up to use to get proper lighting effects—how to use it to hide skin flaws and overcome facial defects. This is necessary knowledge for the amateur as well as the professional photographer in order to achieve better results from photographs. This useful booklet is offered free to our readers, if they will write MINER'S, INC., 40 F East 20th Street, New York, N. Y., and enclose a 3c stamp to cover mailing cost.

Nature Photography

D. Appleton-Century Co., 35 W. 32nd St., New York, N. Y., are offering a complete handbook for nature photographers entitled "Nature Photography Around the Year." The book is priced at \$4.00 and offers a month-by-month almanac of nature subjects and a manual of instruction for the nature photographer which is profusely illustrated. For complete details write D. Appleton-Century Co., at the above address.

The Sun Ray Enlarger

The Sun Ray Photo Co., Inc., presents the Sun Ray Enlarger for miniature cameras. The Sun Ray will make 20-inch enlargement from a 35mm. negative right on the table or by swinging or reversing the head it will make a 30-inch enlargement on the floor.

Some of the Sun Ray Enlarger's important features are: 2 condensers, a 2-inch f3.5 lens, a 75 watt A-17 projection bulb, an adjustable socket (to secure even distribution of light), and a 15x18-inch board base. The Sun Ray is compact and easily portable and it will accommodate 35mm. and ½ vest pocket negatives.

See it at your dealer's or write the Sun Ray Photo Co. Inc., 183 Centre St., New York, N. Y., for complete details.

Photo-Scribe Associates

The Photo-Scribe Associates offer photographers a solution to the problem of finding a market for their pictures. It is not, however, just another picture agency offering pictures of every kind on demand but instead this organization creates a market for the photographs. Photo-Scribe Associates is a photographic cooperative formed with the purpose of combining the talents of individual photographers and writers to make the work of each salable or more valuable.

The organization is comprised of associate members, both photographers and writers, with a central office correlating their efforts into valuable finished work. Thus, when a photographer sends in a group of prints for consideration, the central office considers their possibilities and selects an associate writer to build a story around the prints, perhaps, adding other similar pictures contributed by another associate to make the finished product more effective. With this sort of cooperation, the unrelated and ineffectual efforts of many are combined into a valuable finished product.

In order to qualify as an associate, it is first necessary to submit samples of your work to the central office. If it meets with the requirements of the group, you may continue to submit pictures regularly as an associate.

The central office deducts a small fixed commission from each sale for the correlating and marketing service. Other than this the entire receipts are divided by the two or more associates cooperating on the work.

Photo-Scribe Associates is directed by James C. Hobart, whom all San Francisco photographers admire and respect. No better recommendation can be given any group than that Jim Hobart is behind it making things hum.

Any photographer can send in his prints for consideration but the organization has certain definite requirements, so first write the Photo-Scribe Associates, 955 Clayton St., San Francisco, Calif., and you will receive complete details regarding the organization and their requirements.

CLASSIFIED ADVERTISEMENTS

Rate: 6 cents a word; minimum \$1.50 each insertion, prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆3A Kodak F:7.7, \$6.75; Roll film camera $3\frac{1}{4}\times4\frac{1}{4}$, F:6, \$15.00; Lamphouse DeVry 35mm. projector, O.K. for small enlarger, \$7.50; 3A Kodak box only, \$2.50. Want Graflex $3\frac{1}{4}\times4\frac{1}{4}$ "D" Box. Address Clarke, Care Camera Craft, 425 Bush Street, San Francisco, Calif.

◆19 $\frac{1}{4}$ " B C L 2B Tessar, aerial mount and Ilex shutter, \$95.00; 12" Goerz Doppie anastigmat in barrel, \$50.00; 12" Carl Zeiss Tessar F:4.5 new in barrel, \$150.00; 12x20 F & S Banquet Camera with 11x14 extra back, \$50.00; 6" Cirkut outfit, \$50.00; 5x7 sliding ground glass carriage for Century studio camera with 12 curtain slide holders, \$20.00; 1-4x5 Century Camera, \$10.00; 1-16 $\frac{1}{2}$ " Gundlach Portrait lens F:6, \$20.00. Waters & Hainlin Studios, 265 29th St., Oakland, Calif.

◆6x6cm. Rolleiflex, Carl Zeiss Tessar F:3.5, compur shutter 1 sec. to 1/500, Eveready case. New, has taken but one film. \$90.00. C.P.S., c/o Camera Craft, 425 Bush St., San Francisco, Calif.

◆Ihagee, $\frac{1}{2}$ V.P. Biotar F:2 lens, Helical mounted. Focuses to 4 inches. Filter, Case, Nikor Tank. New condition. \$70.00. Must sacrifice. Philip Danziger, 751-16th Ave., San Francisco, Calif. Phone SKyline 9073.

◆New Model 4x5 Speed Graphic, Carl Zeiss F:3.5, Compur shutter. Model C Mendelsohn Speed Gun, case and adapter for first \$100.00. P. E. Hixson, Tyler, Texas.

◆5x7 Press Graflex, $8\frac{1}{4}$ " Goerz Dogmar, Plate magazine, plate holder, sole leather case, all like new. Will sacrifice \$65.00. Frank Gill Studio, Oil City, Pa.

◆Contax III F:2 Sonnar lens and Eveready case. \$179.50. Like new. Guaranteed. G. Linder, 280 Broadway, New York, N.Y.

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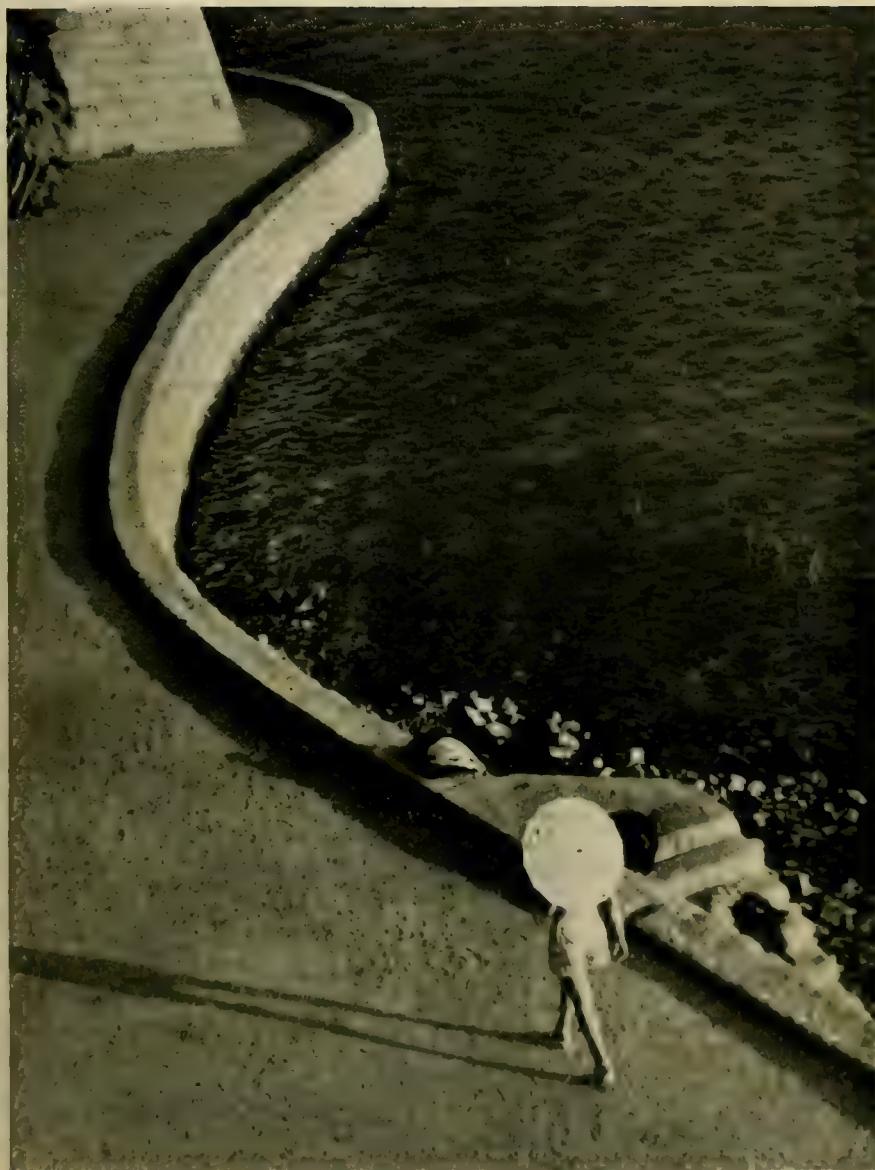
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"Summer Walk"

Pittsburgh Salon, 1938

Dr. Tibor de Csorgeo

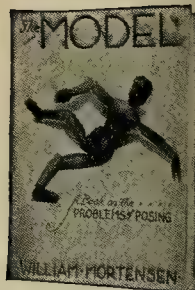
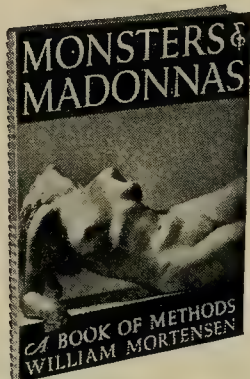
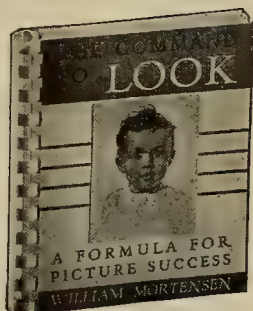
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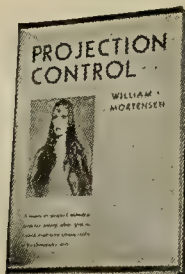
William Mortensen

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425 Bush Street

San Francisco, Calif.





"The Tailor"

William Mortensen

Color In Photography

William Mortensen

INTEREST in photographic color is practically as old as photography itself. Indeed, even in 1810, long before the days of Daguerre, Seebeck was experimenting with a direct color process based on the properties of silver chloride. And in 1861, when photography was still in its cradle, J. Clerk Maxwell was making successful three-color separations. (Maxwell's work, incidentally, was based upon the prior discoveries of Thomas Young, in 1807.)

From those day to these there never has been any cessation of interest in the fascinating problem of photographic color. Direct color, additive and subtractive processes, have all been subjected to intensive research, together with methods of color engraving. Nearly all the principles of modern color procedure are of ancient and honorable lineage. Most of the recent improvements in photographic color are simply refinements in method and procedure of old and well-known processes.

Until recently, color has been too difficult and expensive for the average amateur to interest himself in it. But currently we find ourselves caught in a rising tide of enthusiasm for color. Simplification and standardization of materials, together with extensive facilities for factory processing of film, have made the pleasures of color available to anyone who is willing to pay a little more. There are distinct indications that color will become the prevailing obsession of tomorrow's amateurs.

Even from the beginning, however, there has been, among the experimenters with color, a sense of unhappy frustration. Color they have

The original of the colour picture reproduced in the frontispiece of this issue was made by a process originated and recently perfected by Mr. Mortensen. It is based on a new application of chemical conversion, by means of which a print may be derived from a Kodachrome transparency. Camera Craft is not at liberty to discuss the details of the process; so readers are requested not to ask for such information.—Ed.

gotten, and lots of it, but, after the first keen joy of securing color, even the most uncritical feel a gnawing dissatisfaction with their results. To be sure, the finished product is red, green and blue in approximately the same spots where the subject is red, green and blue. But we quickly discover that the garish and abundant color adds nothing to the subject; in fact, it soon proves to be a distraction and annoyance. We seem to be looking at nature reduced to terms of cheap calendar illustration. Before long, we find that we return with relief to the quiet and cool convention of black and white.

What is the reason for this disappointment that most people encounter in their experiments in photographic color?

Obviously, the disappointment is not inherent in the nature of color itself; for the finest and most expressive art of the past has been based on the use of color. Color is too well established as an art medium to require any argument in its favor.

Nor is the imperfect nature of the color processes the source of the perennial disappointment in photographic color. The processes are not perfect, it is true, and they are still unfortunately complicated and expensive. But, in moderately skillful hands, they are now capable of both accuracy and quality in color reproduction.

The real basis for the disappointment and frustration that comes to most workers in photographic color is the fact that, although we have pretty well learned how to *secure* color by photographic means, we haven't bothered yet to learn how to *use* color. Nor has it even occurred to the majority of those who are now dabbling in color that there is anything to be learned about using it: the color is simply *there*, ready and waiting in the subject; one merely takes an accurate meter reading, sets the shutter, punches the button—and the rest is up to God and Mr. Eastman.

Pictorial workers in black and white long ago learned the absolute need of selection and elimination in dealing with their material; but it does not seem to have occurred to most of the workers in color that color has any higher virtues than accuracy and abundance. Hence the weakness and slight nature of nearly all work being done in color today, despite the huge volume of the output.

The fact is that we haven't gotten over our naive wonder at this new revelation and learned to put it to work. But, as we are already finding out, *color for color's sake is not very important*. It speedily becomes commonplace—if not downright annoying. But *color for the picture's sake is a subject of unguessed potentialities in photography*.

The first thing to do in clarifying our ideas about color in photography is to realize that literal color is of very minor importance. Color is not important because it enhances the realistic quality of the subject. The best color in art is only *incidentally* realistic. Great artists always lead us away from the realistic and prosaic implications of their subject matter. Especially is this true of their use of color. Color for them is a convention and a symbol—not a matter of accurately matching tint for tint, and tone for tone.

So get over any idea that by merely adding accurate color you have improved your picture. Color in itself can no more improve a picture than



"Clovelly"

Don McMasters, F.R.P.S.

Kodak International Exhibition, 1938

a poet can raise the literary quality of his verse by perfuming the paper it is written on.

Indeed, black-and-white seems a much more fitting medium for strict realism—if one wishes to indulge in it. For the use of color introduces incalculable and explosive emotional elements, elements that are not to be governed by mere factual realism.

It is a strange bit of irony, indeed, that the most intelligent and artistic use of photographic color that one can find nowadays is entirely utilitarian and commercial in motive, and is dedicated to making the public conscious of soap, cigarettes and automobiles. Among these advertisers, of course, one finds bad color as well as good color; but the best of them show real understanding of the use of color and its relationship to the photographic medium. It is a curious fact that the pictorialist and the advertising photographer are much nearer to each other in their motives than either is to the pot-shooting amateur who seeks only realism in his color; for they are both interested in making, not realistic, but *effective* pictures, and they use color for the sake of securing an *emotional response* from the person who looks at it.

And in some of these effective advertisements, the fullest credit belongs to neither the photographer nor the person who arranges the material. It belongs rather to the original "forgotten man"—a man of whose very existence most people are unaware—the "color man" in the engraving establishment. It is the "color man" who etches, by careful hand

labor, the three separation plates until he secures the proper relation of the colors. It is to the good taste and prodigious labor of the "color man" that credit should go for many of the fine professional color jobs that you may have admired.

In the work of such careful craftsmen as Bruehl, Steichen, Bourke-White, and Paul Hesse, one finds color used with taste and discrimination. They have gone about the new problems of color with the same competence that they exerted in their earlier work in black and white. And old-line publications such as *Pictorial Review*, *House and Garden* and *Vogue* are now showing on their covers examples of photographic color that are not only technically competent but pictorially pleasing. Strangely enough, it is the more recent photographic magazines that are most backward in this field. In these magazines one would expect at least competence, and would hope for intelligence in the presentation of color. But the only color that they offer is of a sort that by comparison makes calendars and picture post cards look like delicate and sensitive masterpieces. Two or three *parvenu* geniuses—artificially propagated and hastily discovered—seem to be the source of these chromos. These magazines will get wise to themselves eventually, no doubt; but meanwhile they are giving the anxious and naive amateur a completely fallacious impression of the ideals and potentialities of photographic color.

As a general rule, the amateur runs far ahead of the professional in honest pictorial attainments. But, as far as color is concerned, the amateur has not yet found himself. At the present time, he is going hopelessly haywire in the new field. Not that he isn't trying. There is a great deal of color work coming from amateur sources today—and nearly all of it is bad.

In amateur work we may note the stubborn persistence of certain abuses of color. These abuses may be divided into two general classes:

1. Color that is bad in itself.
2. Color that is bad for the picture.

Let us consider a few readily recognizable examples of these two abuses.

A familiar type of color that is bad in itself is that which we may designate as the "crazy quilt fault". This yields us a picture that is composed of a large number of little meaningless patches of assorted colors. There is nowhere that the eye can rest comfortably within it, and it breeds no other reaction than bewilderment and annoyance. Backgrounds and settings that attract the untrained eye as being "colorful" or "interesting" are apt to turn out pictorially as crazy quilts.

Another example of this class of error is color that is not only false, but false in an ugly manner. It brings us oceans filled with bluing, foliage that drips with poisonous green paint, and complexions that are livid or feverish. This fault often grows out of unskillful use of the color process. It is also attributable in many cases to bad lighting. The use of color introduces new and complicating issues into lighting problems. Wrong use of light may seriously falsify color or even destroy it.

Still another sort of color that is bad in itself is the "fault of untempered primaries". This fault fills the picture space with raw slabs of



"Early Spring"

Helen Thompson Farrell

Pittsburgh Salon, 1938

primary color. Rank red and blatant blue compete for attention and succeed only in affronting the eye. This error is frequently the result of mishandling the color process, for such areas of unmitigated primary color are rarely encountered in nature; but it may also be caused by wrong selection or arrangement of colored material before the camera.

Color that is bad in itself is also found in the form of harsh or discordant combinations. The use of direct complementaries in nearly equal areas is a typical fault of amateur color work. Red and green or blue and yellow are not to be reconciled in equal areas; the effect is either vulgar or barbaric, and completely unpictorial.

These faults in color that we have just noted are examples of color that is bad intrinsically—bad in itself. There is another class of faults in color—color that is bad for the picture; color that violates the principal image. Color or no color, the principal image is the one entity that matters in a picture. All the operations in picture-making are dedicated ultimately to one end—that of showing off the principal image to the best advantage.

Here are a few examples of color that is at fault because it is bad for the picture.

Strong color always draws the eye more forcibly than pale or subdued tints. Therefore, all good pictorial construction is violated by placing areas of intense primary color near the edge of the picture, for they effectively pull the eye out of the picture instead of leading it in. This effect is exaggerated when the principal image itself is of delicate coloration. This is a very common fault in the field of photographic color, despite the fact that it is contrary to all the best interests of the picture. As showmanship, it is comparable to turning the spotlight on the piccolo player while the prima donna sings from a darkened stage.

The "crazy quilt" fault, which we have already mentioned, must be listed here also; for it is definitely bad for the picture. The principal image is often swamped by the surge of meaningless patches of color.

Another frequent fault consists in placing a principal image of cool and quiet colors against a *hot background*. Not only is the eye attracted more strongly by the hot colors, but they thrust themselves forward in such a way that the background actually appears to be closer to you than the principal image.

Still another common source of trouble in the pictorial use of color lies in the choice of color that is unfitted to the emotional connotation of the subject matter. It would seem to be obvious that a hot and heavy color scheme is not fitted to the representation of a blond child; nor are pale and delicate pastel hues the proper medium for portraying a rugged and hard-bitten pioneer. Yet we have seen these things done—and other equally absurd solecisms in color. We are most of us so hot after color—any sort of color—nowadays that we fail to realize that color has any meaning in itself.

These are just a few of the more egregious errors that one encounters every day in examples of photographic color. These and similar blatant faults must be understood and systematically eradicated before anything worthwhile can be accomplished with the marvelous processes that are now available.

It is a great pity, when one considers the years of patient research



"Winter Sentinels"

Dr. Paul Truesdell

Pittsburgh Salon, 1938

and miracles of factory processing that lie behind modern color methods, that the accomplishment has been so miserably inadequate. We have, in modern photographic color, a pictorial medium of utterly unrealized potentialities. This valuable tool lies ready to hand, and we either disregard it or subject it to vulgar and ignorant abuse.

And there is no justification for the toleration of such an attitude towards the problem. It is merely necessary that we pause for a moment in our headlong pursuit of mechanical and technical details and give a little quiet thought to the *pictorial significance of color*. What is the emotional meaning of color? What are its uses? What lessons can the tradition of the old masters bring us? The basic principles involved are unesoteric and simple, and are quite within the comprehension of an average person. Indeed, a system for the effective pictorial use of photographic color can be comprehended within half-a-dozen readily applicable formulas.

I hope, in future articles, to be able to give consideration to some of the problems of this much neglected field.

Tricks Of The Trade

George Wright

(George Wright is a member of the firm of Shigeta-Wright. Both Mr. Wright and his partner H. K. Shigeta have international reputations as outstanding photographers. Among awards the firm has earned is the Grand Prix of the International Salon of Milan. Shigeta-Wright work has been shown in the London Royal, the Pittsburgh International and the Los Angeles International salons as well as in practically every photographic art center in the world and has received many medals, cups and citations. Clients of the organization include the foremost American and foreign industrial concerns and advertising agencies.)

THERE is little work handled by the professional photographer that the experienced amateur cannot duplicate if he is equally well equipped and is willing to spend extended time and infinite patience. This is especially true of so-called "trick" photography. The professional avoids this method as much as possible, employing it only as a means of saving expense or in order to obtain unusual effects that cannot be obtained with equal convenience otherwise.

In our organization, my partner, H. K. Shigeta, handles most of our photomontage and strip negative jobs. Let's follow him through some of his work with these types of photography:

Here's an order from a tooth-paste manufacturer for an illustrative photograph, of many smiling faces of varying size and all types, fitting into an oval of given proportions. The simplest way to handle this type of work is to take individual photographs of the various faces to be included. These are then each cut in outline and pasted against a black dull finished background. Possibly an air brush is used to blend the background tone together. The work is placed on the copy stand and photographed.

However, this method sometimes leaves hard lines around the subjects when the background hasn't blended in evenly, and some of the brilliance and clarity is inevitably lost in every reproduction.



Figure 1. 30 original photographs on one film.

Courtesy Dr. West Tooth Paste



Figure 2



Figure 3



Figure 4

These three photographs were combined to produce Figure 5

Shigeta produces the photomontage on a single negative. He employs a large size film and uses a camera with ground glass focusing. The various subjects are selected and mapped out on the glass in an oval of the desired proportions. Oil crayon or India ink is used in sketching on the ground glass. Subjects are posed before the camera against a black felt background. Lighting is with spots from the side in order to avoid any light striking the background.

To facilitate accurate placement of the subject on the ground glass, we have an original contraption consisting of a stand holding a black surfaced board with a round hole in it. The board is attached with threaded metal rods, so that, by turning the rods we may adjust the board to any position we wish in relation to the subject and camera. Black paper with smaller openings may be fitted over the aperture in the board.

The proximity of the opening in the board to the camera lens, causes the edge of the opening to be out of focus and gives the desired soft blending of each head in the photograph into the black background. The black board around this opening serves to further prevent any stray light from hitting the film.

The camera is shifted until it is the proper distance from the subject, in order to make it strike the planned space on the film. Shigeta takes extreme care that identical exposure and lighting intensity be employed since the entire group (being on one film) is to be developed and printed together. (See Figure 1.)

A type of trick photography more generally applicable is strip negative work. We employ this when we want parts of one film to appear against, or in conjunction with others.

Assume that a valuable client of our has what he considers THE shot of a certain large building. Clouds, lighting, appearance and all other details catch his fancy as particularly desirable. But there is a minor flaw in the shot. The people in the foreground, let us say, are not dressed in the style the client prefers.

Our job is to change the clothes of the people. We pose models in the studio in positions similar to those in the original photograph. With these properly placed on the new negative, Shigeta removes all of the emulsion except the part to be employed in the final print. Then he re-



Figure 5. Strip Negative Job

Courtesy Marmola Company

moves that part of the original negative that the account finds undesirable. The two negatives are then bound together with Scotch tape, fitting without overlapping or leaving blank spaces. They are printed as one.

Other examples of this type of work are prepared when the client likes the head on one print and the body of another and the model is no longer available or when a background that is impracticable to obtain is desired for certain subjects.

Let us follow one of these orders through in detail. It calls for a summer beach scene with a lifeguard in the foreground waving to a small group of bathers in the distance. This order is given us in the winter and we do not have time to travel from Chicago to a warmer clime. (Figures 2 to 5 provide illustrations of this type of work.)

Our first step is to select a background negative that conforms to the requirements, from our stock of several thousand negatives. This negative is studied for elevation from which it was taken and angle of lighting. This is imperative in order to make the parts to be added fit against the background in correct perspective.

We next construct a platform on which the lifeguard stands, and take the shot of him on the largest negative practicable. Because the distance between the lifeguard and the group of bathers is greater than the lens can cut sharply, it is necessary to take a separate photograph of the

group of bathers. In doing this a white canvas is placed on the ground to compensate for the reflected light from the sands of the beach. This gives us three negatives of the same large size.

The background negative is now attached to the foreground shot of the lifeguard, with Scotch tape, emulsion side up and placed on the retouching stand. Mr. Shigeta employs an etching knife to carefully remove the part of the emulsion that covers the section of the photo of the lifeguard on the stand to be retained in the final print. He works most painstakingly here, making certain that every line is followed to perfection.

Where the section to be removed is greater than an inch across, in order to save time, the artist after etching away an outline of the section to be deleted, an eighth of an inch from the edge, employs a reducing chemical compound. It is applied with cotton attached to the handle of a fine brush.

Our studio uses a solution of potassium permanganate in sulphuric acid in preference to the more generally employed ferric cyanide solution because the latter loses its effectiveness after a few minutes and fresh solutions must therefore be frequently mixed.

The negative of the lifeguard is next placed on top and the undesired portion is removed in the same manner. The outline of the part retained fits perfectly into the clear space in the background.

Similar treatment is given the group picture and the three are bound together with Scotch tape. The next step is to tie the subjects to the ground.

This is done by inserting shadows. Here Mr. Shigeta employs his artistic ability. First he lightly outlines natural looking shadows on the negative with retouching pencil and then carefully etches within the lines, leaving just enough of the negative image to retain the texture of the ground surface. A careful check is made of the completed combined negatives and any necessary modifications are made with a retouching pencil or etching knife.

This type of strip negative work gives greater accuracy and a better impression of straight photography, but it is much more difficult than strip print work.

Most amateur photographers have at one time or another attempted strip printing. Mr. Shigeta also occasionally employs this type of effect when the work does not call for the deceptive appearance and will not stand the cost of strip negative work.

A typical shot is one of a man with a smiling expression, holding aloft his own head with a sorrowful visage. (Figure 6.) The effect is obtained, most photographers know, by photographing the man holding his hands aloft and then placing a cut-out head between the fingers. This is then photographed. Shigeta improves this type of photograph by retouching the combined shot.

It is important to sketch shadows, between the fingers, falling on the head held on high, in the direction away from the lighting. The most frequent identifications of this type of work lies in the hair. The many fine hair-lines are lost when the top is cut-out and these should be sketched in to complete the illusion. It is understood that lighting is from a similar angle on both shots.



Figure 6. Strip Print, or cut-out and copied.

Courtesy Peoples Gas Light & Coke Co.



Figure 7. Projected Background.

Courtesy Fred Harvet, Inc.

In order to obtain a scenic background without having a backdrop built, Shigeta occasionally projects a powerful lantern slide against a screen, builds the props so that they hide the base of the screen, and places the subjects in front. Subjects may be spotlighted from the side in this case to avoid light striking the screen and causing the projected image of the background to fade. (Figure 7.)

Much of the work to be given a ghostly effect or to be blended off from the full tones to blank is done by carefully washing the negative in such a reducing agent as potassium permanganate. The effect is obtained by employing the reducer for a brief period of time and then washing it off for a minimum reduction, confining the heavy use of it to sections to be totally blanked off. (Figure 8.)

Trick photography is only as limited in its possibilities as the photographer's imagination.

And it's lots of fun!



Figure 8. Three separate negatives partly reduced and combined.

Courtesy Mikimoto Pearls

A Report On Du Pont XL Pan

Harry Champlin

THE newest member of the parade of ultra rapid emulsions is a product of the DuPont Laboratories called *XL Pan*. This film is characteristically DuPont, having the same lavender tinted base, the same tough emulsion, the same uniformity, but with a greatly enhanced speed and a softer gradation than other DuPont emulsions. This film should be used at 128 Weston in daylight and 72 Weston in Mazda light, and should be developed for 24 minutes at 70°F. in Champlin No. 15. Negatives made in this manner will have a gradation which will yield perfect prints on papers of medium contrast.

Negatives developed for 24 minutes as recommended herein will look exactly like correctly exposed and developed negatives made on DuPont Superior panchromatic film.

Now, it is my firm belief that the greatest value possessed by these new type ultra rapid emulsions is their ability to record shadow detail and thus present things more as we see them with the human eye, and in order to attain a slightly softer contrast so that this effect will be more apparent we should develop this film for only 22½ minutes at 70°F in Formula 15. Negatives exposed at 128 Weston and developed for only 22½ minutes will have an exquisite gradation. There will be a long flight of delicate tonal steps in the negative and this delicacy will be at once apparent in shots made out-of-doors of people and objects at close range. There will be a roundness and modeling in faces which will result in a more lifelike presentation. You can, for example, shoot a picture of a girl with a wide-brimmed hat with the sun directly overhead so that the brim of the hat casts a shadow over a portion of the face. The film will record all of the tones of the face in the shadow of the hat and in addition will not block up the portion of the face lighted by the direct rays of the sun. This, then, is better because it is exactly what the human eye sees.

A friend of mine recently returned from a trip to Mexico and he used some of this film for photographing murals and frescoes in cathedrals and other buildings in out-of-the-way places. These films were developed just a little longer in order to build up a little more contrast and the resulting negatives made everything appear as if the lighting conditions had been ideal for photography. That is one of the features of this new XL Pan. You can change the development time to suit the lighting conditions. When correctly developed the film is slightly softer in gradation than DuPont



"Dune Crest"

D. Ward Pease

Pittsburgh Salon, 1938

Superior panchromatic emulsion. From that point on you can obtain any degree of contrast desired by simply increasing development time.

The grain structure of XL Pan is influenced greatly by the amount of development given the emulsion. If XL Pan is exposed at 128 Weston and developed for 22½ minutes in Formula 15, the grain structure will be the same as the grain structure of a DuPont Superior negative correctly exposed and developed. If the negative is developed for 24 minutes, the grain structure will be only slightly coarser than a correctly exposed and developed DuPont Superior negative. If the development time is increased much over 24 minutes, the grain structure will be coarsened, but this is true of all emulsions.

The fog which is present in all ultra rapid emulsions is very low in XL Pan and this factor contributes greatly to the brilliance of the tone scale.

The miniature camera photographer should always use the fastest film obtainable except on those special occasions where work of some scientific or other nature dictates a slower or more contrasty film. In XL Pan, the miniature photographer is gaining an enhancement in gradation and emulsion speed without sacrificing any of the other qualities so desirable in miniature camera work. It is my opinion that XL Pan will be followed by other DuPont emulsions with qualities unknown in emulsion-making today.

Handling, Proofing And Filing Miniature Negatives

Frank A. Holmes

A 35MM. negative is pretty small. So are ordinary abrasion marks, but even a very small scratch on a tiny negative shows up disconcertingly on a print and anyone who has put in time spotting white lines, or worse, black lines, from otherwise good enlargements will agree that such scratches are at best undesirable superfluities.

One who works with small films must have a very careful and painstaking technique, but the best intentions may not achieve the best results if certain methods are at fault. There are some points which seemingly small, can contribute greatly toward satisfaction if adopted as part of the regular routine.

First of all, if you send your films out for development, try to see that the film is developed on an individual reel and not loose in deep tanks. You may have to pay a slight premium for this type of handling, but if the work is valuable, and all negatives should be, it is worth while for several reasons. In the first place, individual reels afford complete protection from scratches caused by handling during processing. In the second place, the user of deep tanks is not apt to use the desirable short stop hardening bath because of its very short life in relation to the large volume of solution in deep tanks.

Similarly, uniform temperatures and fresh solutions are more apt to be used with individual reels simply because reels are generally used by a careful specialist and not by the mass finisher.

The decision next facing the user is whether to leave the film in the original strip or cut it into short strips of four or five frames. There are arguments for each. Personally I believe it much better to leave the film in a roll. Short strips are generally filed flat. If several strips are left in each envelope, they become scratched during the removal and replacement of individual strips. If filed separately, each roll requires six, seven, or eight separate pockets. When there are a lot of rolls, the problem becomes



"Sophisticate"

Harry G. West

Pittsburgh Salon, 1938

one of keeping the files filed. Then, film is naturally curly and short strips have very sharp edges and corners. When handling them, one is likely to let them curl up in a roll, allowing the sharp corners to gouge little holes in the emulsion that are anything but little in the print.

It is a simple matter to misplace short strips while working in the dark-room and to set things on them, walk on them, or otherwise misuse them. Returning them to the proper file may become involved, since there are so many of them, so few pictures to recognize on each, and little possibility of placing identifying marks on them.

Rolls, too, can have their difficult moments, but watching a few points will make them fairly foolproof. They offer the positive advantage of preserving in a unit the proper relationship of all negatives on a strip, are easier, really, to handle in most enlargers, and simplify filing.

One of the first rules of handling rolls is never to tighten a roll by holding the center and pulling the outer end. That is very bad and is roughly equivalent to packing the film in sandpaper. It produces longitudinal abrasions known as cinch marks. If it is ever necessary to tighten a roll it may be done in comparative safety by holding the *outside* of the roll and turning the inner end in the direction in which it points. Any tightening is better avoided.

Most enlargers are designed to handle rolls, but never, except in enlargers designed for it, change negatives by pulling the film. Any friction is undesirable and even on smooth edges, grit may grind the film. Take the holder entirely out and then move the film when completely released from pressure.

Rolls are easily handled by the edges and the fingers should never touch the emulsion. Fingerprints come off the back of the film but are to be avoided. If film is handled carefully it will rarely be necessary to use a liquid cleaner on it. If a film ever should require it, the cleaner made of ammonia and ethyl and methyl alcohols as described in the Leica Manual is very effective and satisfactory.

Rolls may be kept in cans or the small cardboard boxes frequently supplied. For some strange reason, these are usually filled with a tightly coiled, loose roll. Released, the film uncoils and grips the side of the box. To remove it, grasp the inner end and turn it while lifting out, avoiding the use of force. The turning tends to reduce the diameter of the roll and it will come out quite easily. NEVER just pull it out. Why films should be put in boxes this way I don't know. It is very simple to snap a rubber binder around the film and then drop it into the box or can. It is kept from unrolling and may be shaken out readily and handled as a small unit with no danger of scratches.

Many times negatives very close to the end of the roll will suffer. They are unprotected and may be scratched even when the film is rolled up. Usually one end has some leader, but when the other has little or none I favor splicing on a short strip of scrap film. Fogged positive film which may be obtained from any motion picture laboratory, is best for the purpose. Since the perforations need not match, a splice may be made with no tools but knife or scissors.

Trim the end of the negative straight across and place it emulsion down on a clean piece of paper. Trim the end of the leader off square to match and hold it emulsion side up. Now brush a little film cement across the back of the negative at the edge, covering a narrow area perhaps a quarter of an inch wide. Under no circumstances allow the cement to run onto a picture. Place the leader film on the wet area, back side down so that the backs of the films are together, overlapping just enough to make a firm bond, and hold the two together under pressure for a minute or so. Practice on old film before using a good negative.

Trim the leader at about four or five inches. This leader then protects the first picture and it also provides an ideal white surface on which to write the roll number.

Proofing needs and tastes vary. I shall describe a complete system I have used very satisfactorily. At least parts of it should be valuable in almost every case. This complete system calls for two contact prints, one on paper and one on film. The paper print should be a single, continuous strip. Such strips may be had commercially on perforated 35mm. paper. One piece prints are advantageous as they are exact replicas of the negative and may be used for reference and checkups. This paper proof is the only proof necessary and may be used alone. Examine the prints and on the back check the pictures you want to enlarge. Very often several nearly identical pictures may be taken of the same subject. With a strip print marked on the back and used for comparison with the negative while printing, confusion is avoided. Much time and effort as well as material is saved by the elimination of pictures which may have looked possible on the negative, but are not satisfactory in the print.

A contact print is too small to permit the examination of small details such as expressions in groups and possible unsharpness. The film positive is used together with the paper print. Project the film on a screen, wall, paper, or cloth, and examine each frame carefully. Since the picture may be projected to any size, all details may be seen just as they will appear on paper. This is the ideal form of proof for some professionals. It must be shown where client and photographer are together and can discuss each picture. It is the least expensive form of satisfactory proof, and shows the picture to much better advantage than small enlargements.

As each frame is examined, notations are made on the corresponding frame of the paper print. So though large proofs are examined, all the data as to size of prints to be made, kind of paper to be used and number, is recorded on the tiny paper roll which is kept with the negative and is conveniently available in the darkroom.

The current interest in Kodachrome with a transparency as its end has induced many people to equip themselves with projectors, most of which actually are film projectors with auxiliary glass slide attachments. I think everyone who has a projector should try a few film positives. They constitute an ideal way to present miniature pictures. For very little cost, pictures with dimensions measured in feet may be shown for the enjoyment of one person or a large group. Camera clubs can do well to have projections on the program, especially if candid shots of members of the group are included. Try it some time.

Furthermore, prints on paper can never even approach the richness and depth of a good print on film. For striking illustration of that, compare the stills on the outside with the actual scenes on the screen the next time you see a motion picture. And the motion picture stills are of excellent print quality.

A simple, positive filing system equally adapted for amateur or professional use is easily built up through the use of paper strip prints. While any such system is subject to considerable individual variation, anyone who adopts this system will find it entirely adequate and simple.

The first step is to secure a small card index file with a set of alphabetical index cards and plenty of plain cards. On the very ends of the negative write the roll number assigned, which for the first roll will be 1. Write the same number on each end of the paper print, and on each end of the film positive. Then starting at one end of the print number each picture on the back. For each separate roll, the individual picture numbers start at 1. Thus a picture in the middle of the twenty-eighth roll would be positively identified by the number 28-23.

Put the date in the upper right hand corner of one of the plain cards, the number of the roll it represents in the center, and in the right, such information as type of film and developer. Now list in order all the subjects on that roll of film. This doesn't mean that every frame must be accounted for. Negatives usually come in groups and may be so listed.

When all the negatives at hand have been numbered and listed on cards, arrange the numbered cards in order in the file. Then arrange a separate section with the alphabetical index cards and blank cards for each. Take out the numbered cards, one at a time and copy the subjects separately under the proper alphabetical classification. Thus on the first roll might be pictures taken at the beach, one of which is a picture of a tiny girl relative playing with a dog. On the card for that roll, this would be listed something like—

Beach scenes

Closeups of breakers

Dorothy Wagner and dog, etc.

This particular picture would then be listed on a W card as "Wagner, D", with or without description. Next it would be listed on a D card as a dog picture. Also on a G card as "Girls, Dorothy Wagner". After each listing write the roll number and if desired, the negative number. This cross indexing may be as sketchy or as complete as desired.

Half gross paper boxes, 35mm. film cans or any other similar container may be used for the actual storage of the film. Each negative and its proofs are held together with a rubber binder and put in the filing box as a unit. When a box is filled, the first and last roll numbers in the box are written on the outside in a conspicuous place, as 25-31. China marking pencils are best for this purpose, as for writing on film.

When making prints in the darkroom, immediately after exposure, mark the roll and picture number on the back of the print with pencil. This mark will stay on during development and is positive, permanent identification. All orders for duplicates may be made by number and the negative for any print may be located readily.

Love, Honor and Lament

Lorine W. Garrett

IT all happened the rainy night I arose from my bed to shut the window. How was I to know that two long streamers of negatives were hanging from the curtain rod! Up until then, being the wife of an amateur photographer held no terrors. But as I slunk meekly back into bed, waves of memory flooded me and I wondered how I had borne up so bravely all these years.

In the beginning there had been no dark-room. But there was a bathroom and a bathtub—and it had been a deal more important then to have the prints well washed than the family. Now my husband has a dark-room—the only dark-room in the world that is small enough to splash all four walls at one time—so minute that cleaning it is a very grim bit of business indeed.

The shelves of this cubby hole contain boxes of paper, Scotch tape, pieces of broken glass, books and catalogues on photography, trays, rubber cement, sink stoppers, mounting board, tripods, sodium sulphite, pitchers, blue, yellow and green ribbons and small bronze medals—the awards of work well done; blotters, metol, cigar box for loose change with which to buy more films; masks, print roller, paper cutter, old albums, bits of string, borax, cameras, cameras and cameras. On the floor (in a space about two by two feet) sits a barrel of hypo, waste paper basket, trays and more trays, bottles with strange writings on them such as D-72, D-64, etc., jugs filled with various liquids—to say nothing about the unattractive towels hanging under the sink, and the strings with clip clothes pins perched like birds upon them waiting to decapitate the unwary upon entering the room. My one real grievance however is that I have never learned to avoid splitting my head open on the enlarger!

All this, I say, had come about in the most natural way. I hadn't really let it bother me at all. But that black night reminded me of past events. I remembered then my early ambition to emulate my husband. Why on earth shouldn't *I* take pictures also? And I did. Of course I always told my husband what I was about to take, where I would stand and when it was to be done—and then he would fix all the cute little things

on the side, front and back of the camera for me, after which I proudly snapped the shutter release. One or two pictures resulted in prizes for me, after which it wasn't possible to allow anyone but myself to develop and print my films.

I chose an afternoon when I was certain to be alone, and, with some trepidation, entered my husband's dark-room. I mixed up certain things, set the time clock, closed the black nun's cloth curtains, turned on the red light and set to work. Never was there a prouder moment for me than the one in which I showed my masterpiece to my husband. The darn things really looked like his. And I received adequate commendation. But that evening proved my undoing. I printed my pictures—and I thought them really quite perfect. My husband, however, took one glance, and exclaimed in horror, "Using buff paper for snows!" Well really.

Most certainly I missed my chance for retaliation that time. Why I didn't cast up the number of times he had used my good gas stove for heating developers—my good bath towels for drying prints—my good sheets for projections—my good glass refrigerator tray for toning—to say nothing of the time he smoked us out of the house when he used flash sheets to take the Christmas tree! Not until that night did I think of such things. Nor did I remind him of the awful day we dragged his Graflex all over the Grand Canyon taking pictures with an empty cut-film magazine! Certainly I had been too noble.

Standing out in my memory more than any other thing, however, is the night our husband and father dropped his negative file in the water! A stunned silence on our part followed the first exclamation. Had he received foul play in the dark-room or did he think he was back in the army? But his appearance with the dripping file told us the worst. I ached for him that time—every film of any note was in that soggy mass. But after an added soaking and a hanging up to dry over night, we learned that no real damage had been done.

The gadgets came along with the other camera equipment during the years, but very few now remain. There still is the very collapsible easel on which to display prints and the stout wooden cane that turns into a tripod—or is supposed to. What it really turns into is just another thing to break one's neck over. And, of course, there is the big closet that was built for coats, suits and dresses, but now contains every bit of wrapping paper and string that has found its way into the house during the year, along with odd bits of rope, cardboard and a wooden crate—"for sending off my one-man show". A large studio stand is in one corner on top of the rubbers and galoshes and beside the vacuum cleaner is the collapsible easel.

And I think of the times on number when, after a thorough cleaning, the living room is converted into a studio for mounting pictures. When one steps between mounting board, pictures, rubber cement, rollers and bundles of paper, with the thought that one mis-step means sudden death. Actually it takes on all the exhilaration of mountain climbing. It is after one of these scenes that my husband turns sheepishly domestic. He runs the carpet sweeper over the ruins.

There was the time when *one* Rotarian asked my husband to give an exhibit of his prints with a short talk to *all* the Rotarians at one of their

A Developing Tank Air-Relief

R. C. Alexander

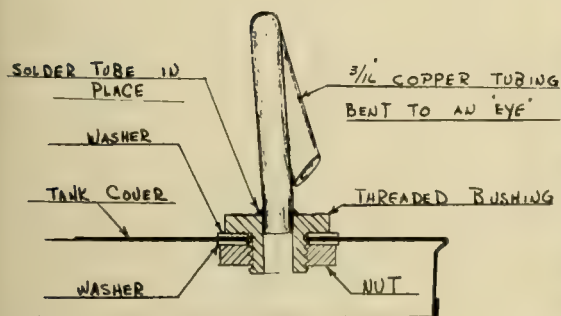
AN ailment common to several popular developing tanks is the lack of provision for the rapid escape of contained air. This produces a slow filling rate with uneven development usually accompanied by spillage due to bubbles entrained in the filling neck.

By attachment of a light-tight air relief this fault is readily overcome and such a simple device is here-in described. Mounted on the tank this relief attests its efficiency by a greatly increased filling rate and an audible hiss of escaping air.

Procure a $3/16$ inch "panel bushing" with nut and washers, all nickel plated, from a radio shop and solder into it a 3 inch length of $3/16$ inch copper tubing. This tubing is then bent into the form of an "eye" to prevent entrance of light into the tank, which, of course, would "fog" the film.

This is then clamped tightly through a hole drilled in the cover of the tank, preferably at the highest point, using nickel plated washers both above and below.

Since using this device on my developing tank the negatives produced have no uneven development streaks or areas and the complexion of my dark-room work bench no longer suffers from PPD blemishes.



Cinema Section

Edited by
William A. Palmer

Daylight Projection For Exhibition Booths

THE presentation of motion pictures in connection with exhibits at expositions, fairs, and conventions is becoming very common. Motion pictures are especially valuable for exhibitors whose products cannot be shown in use due to lack of space or other facilities in the exhibition hall. There is always the problem, though, of how to arrange the projection so that the films can be seen satisfactorily.

In many cases it is possible to make a little theater in a corner of the exhibition hall, separating it from the other exhibits and keeping away light by curtains or other partitions. Such an arrangement is ideal but has the disadvantage of requiring a good deal of floor space—always an expensive item of exhibition expense.

Sometimes it is possible to arrange a theater which can be used jointly by several exhibitors and have films on different subjects projected one after the other in rotation. Thus one little theater can serve several exhibitors with economy of exhibition space cost but with the loss of the valuable concentration of the audience on one subject which the private showing place allows.

The more common requirement is to show the pictures in the exhibition booth since the picture serves to attract the spectators to other displays. A typical booth at conventions and expositions is rectangular or square in shape with perhaps a ten-foot depth and a width of 10 to 15 feet. Such a size and shape does not lend itself very well to motion picture presentation, for it gives little distance for the conventional projection set-up where a "throw" of 15 feet or so is needed.

There are three general methods that can be used in presenting movies at a booth. The first is an arrangement for conventional projection, throwing the picture diagonally across the booth as in figure 1. In this way with a 10 by 10 foot booth and 12 to 13 foot "throw" can be obtained. This is far from ideal because the projector must be out in the way of the audience. Seldom can the projector be placed high enough to clear the heads of the crowd, so the space between the projector and screen must be kept clear so that the light beam will not be obstructed.

Then, too, there is the problem of stray light striking the screen. In most exhibition halls there is a good deal of light especially from overhead, and it is practically impossible to get the screen anywhere near darkened. The screen can be shaded on both sides and top with opaque material to form a sort of

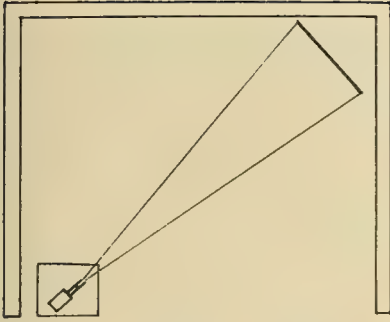


Figure 1

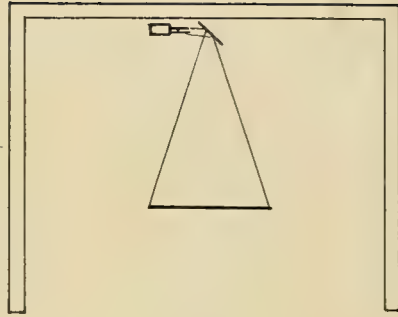


Figure 2

tunnel, but in order to get a real shielding of the screen, it is necessary to mask in such a way as to cut off the view of persons standing more than a few feet to one side of the projector.

With black and white film and a screen which cannot be darkened very much, a pretty fair picture can be obtained if a 750 watt lamp is used in the projector and the picture size held down to $2\frac{1}{2}$ to 3 feet in width. With color film, however, this arrangement is poor because the colors will appear weak and bleached out.

A still further objection to the arrangement of figure 1 is the distracting noise of the projector out in the audience as well as the possibility of the show being disturbed by people accidentally hitting the table on which the projector is operating. The ordinary glass bead screen is probably the best type to use for daylight reflected projection.

Translucent Projection

A second arrangement for daylight projection is by back projection onto a translucent screen. Here a rather small screen $2\frac{1}{2}$ to 3 feet wide, made of translucent material, is mounted in a frame and the projected picture viewed from the side opposite to the projector position. The projection from the back has the advantage that it can obtain a more brilliant picture that is less affected by stray light hitting the screen. The translucent screen is therefore usually more satisfactory than a reflecting screen for daylight projection.

As shown in figure 2, a typical arrangement for translucent projection has the screen out in the center of the booth and the projector as far back as possible. Usually a wide angle projection lens is used so that the distance between projector and screen can be made as short as possible for a given size of picture.

Between the projector and the screen, a tunnel can be constructed to shield all light from the back of the screen except that which comes from the projector. The front of the screen should also be shaded by short "wings," although a good deal of stray light from this direction can be tolerated.

If the projector is set up and threaded in the ordinary manner and used for back projection, the pictures will appear reversed from left to right since they are viewed through the screen. It is therefore necessary to thread the film into the projector with the emulsion facing in the reverse direction from normal practice. This means that it is necessary to rewind the film with a half twist so that the emulsion position is switched. An alternate procedure and one that

is necessary for sound on film projectors, is to place the projector at right angles to the beam of light which is to go to the screen and re-direct the light beam with a mirror as shown in figure 2. The mirror will right the image for viewing from the opposite side of the screen without necessitating any change in threading procedure. The mirror has the added advantage of conserving some space and allowing the screen to be set farther back in the booth. This is made possible by being able to put the projector sideways right up against the back wall of the booth and at the same time give a little more "throw," since the total projection distance in effect is the distance from the projector to the mirror *plus* the distance from the mirror to the screen.

The mirror used for re-directing the projector beam should be preferably of the "first surfaced" type in order to eliminate double reflections. That is, the silver coating should be on the top surface of the glass instead of on the bottom or back surface as in the ordinary mirror. "First-surfaced" mirrors can be obtained from optical goods manufacturers like Bausch & Lomb and Spencer who use such mirrors for their lantern slide and "opaque" still picture projectors. They are made on high grade glass polished to a very flat surface, then silvered and the silver surface protected by a very thin coating of clear lacquer. The surface of these mirrors is delicate and should never be touched by the hand or wiped with a cloth. Dust can be removed by a soft camel's hair brush.

A good plate glass mirror not over 3/16 inch thick, silvered on the back, can be used if one does not care to make the expenditure of a "first surfaced" one, although the image quality will suffer somewhat.

Materials for Translucent Screens

There are many materials that can be used for translucent screens. Most manufacturers of regular glass bead screens also can supply a satisfactory material or one can make up a screen very easily. A common type of material is ground glass or frosted celluloid. These give an extremely brilliant transmitted picture and are recommended for use when the showing must be made in a very light room. They have the fault, though, of showing a "hot spot" due to the projector lens being faintly visible in the center of the picture. The ground glass or frosted celluloid also has a tendency to show a good deal of flicker because of the intense light.

For most purposes a better material is tracing paper or tracing cloth. These are opaque enough to eliminate the "hot spot" and yet will give a brilliant picture. The material is very inexpensive and can be stretched tightly over a frame to make a first class screen.

Some care should be taken in selecting a tracing paper or cloth in order to obtain one without mottling and with as little tint as possible. Most tracing papers have a yellowish color and most tracing cloths are bluish, but either of these if very light will be satisfactory. For projection of color films a slight bluish cast is preferable to yellow.

The translucent projection arrangement of figure 2 is not very satisfactory for a small exhibit booth because there is so much depth required for the "throw." In spite of the fact that the picture is kept to a small size and a wide angle (1 inch for 16mm.) lens is used, most of the spectators must stand out in the aisle.

A Cabinet for Translucent Projection

A logical solution to the problem of projecting films in daylight and within a small space is furnished by a special cabinet as illustrated in figures 3 and 4.

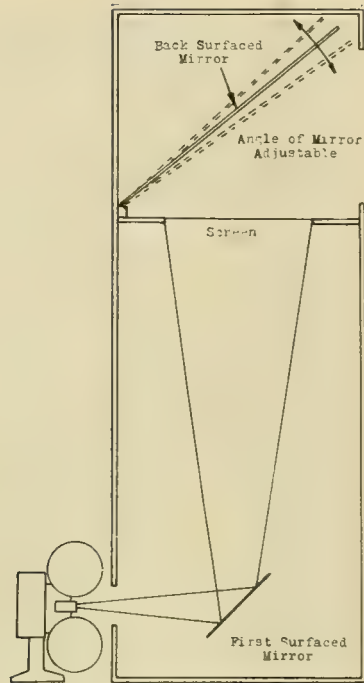


Figure 3

This cabinet construction which has been used by a number of concerns with great success, entails some expenditure, but the greatly improved show which it gives certainly justifies its cost. It furthermore can be considered a permanent piece of equipment to be used at other times rather than just a display that is built for the one special exhibit and then is not used again.

The cabinet can have floor plan dimensions of about 3 ft. by 4 ft. The total overall height should be $8\frac{1}{2}$ to 9 ft. As shown in the side cross section in figure 3, the screen is mounted horizontally about 6 ft. off the floor level where the projector is placed at the back of the cabinet and outside of it. The light beam of the projector is directed up onto the screen by a "first surfaced" mirror and the "throw" of the projector is thus obtained vertically instead of horizontally. The picture is viewed, by persons standing in front of the cabinet, by the reflection of the screen in a large mirror set at an angle at the top of the cabinet. This large mirror, perhaps 4 ft. square need only be a regular "back surfaced" one, but should be of good quality. The angle at which it is placed should be adjustable depending upon the distance from which the picture is to be viewed. The angle will always be somewhat less than 45 degrees with the horizontal.

The picture size for a screen position 6 ft. above the floor will be about $2\frac{1}{2}$ ft. in width when a 1 inch projection lens is used. A 3 ft. picture can be obtained with a $\frac{3}{4}$ inch lens. The picture area should be well within the outside dimensions of the cabinet, leaving a generous margin of six or eight inches around the picture's edges.



Figure 4

The horizontal screen and mirror construction gives complete protection from top and side stray light and the other light coming from the front can be reduced by shields extending from the cabinet opening. The shield for the top of the front opening can be fixed to extend straight out, and can extend three or four feet if necessary to shade from overhead lights in front of the cabinet. But the shields on the sides must be shorter and should be flared outward so as not to obstruct the view of persons standing to one side of the cabinet.

Although a mirror is used at the bottom of the cabinet, the other mirror at the top turns the light a second time and the effect is to make the viewing conditions the same as with straight translucent projection without a mirror. It is therefore necessary to thread silent projectors with the film emulsion reversed as explained above. With sound on film projectors, a third mirror (a "first surfaced" one) must be used with the projector setting to one side and at right angles to the position of the silent projector shown in figure 3. The loud-speaker for sound projection can be mounted in the front panel of the cabinet just below the picture opening.

Figure 4 shows a cabinet used in connection with an exhibit. Here it can be seen how little booth space is taken up by motion pictures. The booth shown here is larger than average but the added space is all used to advantage so that prospects can be made comfortable while they are shown samples or given additional information about the products. If the cabinet were not used, practically the whole booth space would have to be given over to the projection requirements.



Shavenau Monsen, Pasadena, Calif.

Advanced Medal Print

■ The merits of this lovely picture will be obvious to all so we will make no attempt to "gild the lily" so to speak. Perhaps the most interesting point for discussion has to do with the well known fact that tones become lighter as we turn toward the light or as they recede into the distance. Quite often the photographer takes advantage of this to enhance his composition, leading the eye along by a gradually lightening succession of tones. But when the light is from one side, as is the case here, causing the tones to become lighter as we move to that side we find a difficult situation. For as we can see from this picture such a condition establishes a weak point in the print. A point at which there is a chance for the eye to slip out of the picture. In the present print the foreground material is so strong that we hardly notice the weak point mentioned, and that fact suggests one of the possible remedies. The other is dodging in of the side which is too light for purposes of composition. The one thing we must watch when carrying out such dodging in is that we do not obviously violate the natural lighting. If we were to dodge in the left side of this print to any marked degree, for example, it would surely look false. We think that this print does need slight dodging in to overcome the weakness mentioned above. The point we want to make here is that in a case such as this the degree of dodging in must be judged most precisely, so as to not appear in conflict with the lighting.

Data: 13 x 15" bromide print sepia toned.

Second Award

Advanced Class



"Pred Procesijo"

Ante Kornic

Jugoslavia

Data: 6 x 6 cm. Rolleiflex; F:3.5 Zeiss Tessar lens; 1/100th sec. at F:7.5, on E. K. Pan.; 11 x 14" print on Agfa Brovira in M. Q. Prints may be obtained at the price of \$10.00 upon application to Camera Craft.

■ The three heads are grouped in most interesting fashion in this picture and these combined with the three white-clad arms show a varied repetition of form and light and shade that is most intriguing. The whole effect is made strikingly intense by the brilliant lighting. Observe the subtle manner in which the head in the middle assumes dominance in the group. The two outside heads are similar in attitude and lighting, while the center head departs from that attitude, is more brilliantly lit and more strongly contrasted with its surroundings. Furthermore facial expression is more evident here than in the other two. Each of these factors contributes its little bit toward establishing principality in the central figure.

We might wish that the candle in the lower right could have been in shadow rather than in bright light, for it rather pops out at one as things are. It tends to draw the eye downward and to interrupt the circular movement of the eye which is otherwise well established. It would be advisable to tone this down considerably on the print.

Third Award

Advanced Class



"Pandora"

A. B. De La Vergne

Denver, Colo.

■ In this picture Mr. De La Vergne combines the essentials of a good photograph of the nude with considerable skill. He shows a lovely well-proportioned model; an interesting and effective pose which has an idea behind it; good lighting and good general technique. We must have all of these before we can hope for success in this difficult field. Observe the restraint used in interpreting the idea expressed in the title. Pandora, we know, was surprised and horrified when she opened the box, but no attempt is made to have the model convey those emotions by facial expression or emphatic gesture. This, we think, is the right attitude for the photographer to take. The attempt to express violent emotions through facial contortions, always difficult, is particularly dangerous in the case of the nude. One almost invariably winds up with something that is either unpleasant or simply ludicrous. It is far better for the photographer to direct the observer's attention to beautiful proportion, to interesting line and form, as has been done in this case.

Data: 11 x 14" bromide print.

CAMERA CRAFT

Fourth Award

Advanced Class

■ In spite of the disparity of subject matter this picture and Mr. De La Vergne's "Pandora" are based on the same fundamental picture making concept. They are both concerned with showing an interesting and beautiful arrangement of volumes. By volumes we mean three dimensional objects, usually with curved surfaces. The success of the picture depends almost entirely upon obtaining a harmonious relation between the three principal forms shown, that is the large tank and the two smaller tanks. This is achieved by a careful selection of the point of view. Perhaps we can better appreciate the importance of this adjustment if we imagine how the material would look from another point of view. Suppose the camera had been placed farther to the left. This would bring the small tank on the left partly in front of the big one thus greatly decreasing its importance as a factor in the composition. It would also leave an open space between the large tank and the one on the right. These two are now firmly related not only in proportion but because the base which supports the tank on the right cuts into the large tank. The change in camera angle which we are visualizing destroys that relationship. We can see, therefore, that a simple change in point of view would bring about an utterly impossible composition.

Data: $2\frac{1}{4} \times 2\frac{1}{4}$ Korable Reflex; 13.5 cm. Zeiss Tessar; 1/50th sec. at F:8, on Agfa Superpan, in Edwal 20; $10\frac{1}{2} \times 12$ " print on Defender Velour Black DL, toned.



"Lumber-Scrap Burner"

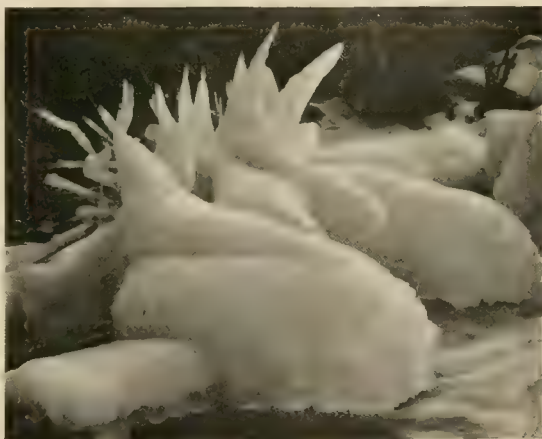
R. F. McGraw
Sierra Madre, Calif.

Fifth Award

Advanced Class

■ Inanimate objects which suggest living forms always hold a peculiar fascination, and Mr. Wagner has taken advantage of that psychological quirk in human nature in making this interesting picture. These ice forms, especially the large one in the foreground certainly remind one of Sea Lions, and the observer finds much pleasure in tracing other forms throughout the picture. Of course we cannot hang a whole picture on such coincidences alone. They are distinctly secondary qualities and will not carry a picture to success unless the forms are well composed, interesting in themselves, and well photographed. In support of this last point it is plain to see that the superlative rendering of textures in this print adds much of interest to it.

Data: $3\frac{3}{4} \times 5\frac{1}{2}$ " Eastman 3A Special; 170 mm. Kodak Anastigmat F:6.3; 1/5th sec. at F:16, on Agfa S.S. Plenachrome, in D-76; K-3 filter in noon sunlight in February; $10\frac{1}{2} \times 13$ " print on E. K. Opal G, in D-72. Highlights in upper corners reduced on print.



"Ice Herd"

H. W. Wagner
Worcester, Mass.



"Angel Fish"

Frank M. Jones

Osaka, Japan

Amateur Medal Print

■ Judging from his name Mr. Jones is not of Japanese nationality, even though he resides in Japan. Be that as it may it appears that he has absorbed much of the Japanese feeling for creating pictures with superbly delicate decorative qualities.

These appear to be the most obliging fish in the world for they have arranged themselves just right for purposes of composition. The eye travels to the left along the line set up by the three fish on the right, and is then turned back into the picture because the fish on the extreme left has accommodately faced the camera, thus checking and turning the movement of the eye.

The picture appears to us to be virtually perfect in all respects except for slight shortcomings in technique. There is a regrettable loss of highlight detail in the bodies of the fish which is probably caused by the fact that their shiny scales reflected a very intense light, so that overexposure resulted. The print is also quite grainy but we cannot trace the cause of this from the incomplete data given. We suspect however that this is mostly due to a high degree of enlargement, since other prints which Mr. Jones submitted are technically excellent.

Data: Leica; 50 mm. Elmar F:3.5; 1/60th sec. at F:3.5 on Agfa film; taken in daylight on sun porch with 500W. lamp directed on aquarium; no filter; 4 x 6" print.

Second Award

Amateur Class

■ We think that one of our judges put his finger on the merits of this picture when he said "I like it because it is a bit of life, with amusing overtones." It is a "bit of life" and the amusing qualities derive from the precarious perch on which the children are sitting and the incongruity of the smiling face on the billboard beneath them. As a composition the picture is perhaps a bit disjointed since one pops from the face on the billboard to the children above and keeps on popping. A more serious fault, we feel, is the extraneous material which appears in the lower left. The lettering is bad enough in attracting the eye, but the fact that there are people in this area causes the eye to try to find out what they are doing, and constitutes a definite distraction from the main interest.

Data: Rolleiflex; Zeiss Tessar; 1/50th sec. at F:8, on E. K. Panatomic in DK-76; with light yellow filter in bright sun; 11 x 14" print on E. K. Opal D in D-72.



"Choice Seats"
Gordon M. Tranter
Calgary, Canada

Third Award

Amateur Class

■ It is safe to say that the scale (range of contrast) of this subject from the brilliant sunlit snow to the dark rock which is in shadow, is certainly far beyond the recording range of any film. That is to say that it is impossible, except by special methods, to show detail in both the highlights and the shadows. Mr. Duggins has chosen to favor the shadows, wisely, we think, for in this case that is where the greatest interest lies. One or two who have seen this picture seemed to think that the force of the diagonal line was so great that it carried the eye out of the picture. We do not find any such difficulty for this diagonal line is checked in both directions; at the top by the dark spots and the fact that the line has reached its peak and tapers off. At the base by the clump of trees. There is also the strong attraction of the wealth of detail and fine texture to be seen in the lower right. This acts as a further check to the directional force of the diagonal line.

Data: 4 x 5" Korona View; 14" Turner Reich Anastigmat F:6.3; 1/2 sec. at F:64, on S.S. Pan., in D-76, with K-2 filter; 10 A.M. in February; 11 x 14" print on Agfa Crystal, in Defender 55D.



"Majesty"
Grant Duggins
Sacramento, Calif.



"Tricky Trio"
M. Desai
Bombay, India

Fourth Award

Amateur Class

■ The three geese are nicely arranged in this picture to form an interesting compositional group. Note how effective it is, in this respect, to have one of the group vary the action of the other two. The edge of the pond moves very nicely through the picture space and it is too bad that this line is not more strongly shown by there being more difference in tone between ground and water. This points to the one shortcoming which we find in this picture. The whole thing is too dark, giving the print a heavy quality that is out of keeping with the out-of-doors. Perhaps this is an instance where orthochromatic film without a filter would have been the best choice, in order to get a considerably lighter tone in the water.

Data: Baldax; 1/25th sec. at F:8, on E. K. Panatomic, with K-1 filter; $9\frac{1}{2} \times 11$ " print on Agfa Brovira, M. Q.

Fifth Award

Amateur Class



"Barbara Jean"
Ralph Hopewell Anderson
Yosemite Nat'l Park

■ This is a very pleasing baby picture with a particularly nice quality of definition, especially about the eyes and mouth. We do not necessarily object to the vignetting as such but do feel that when this device is adopted it is not advisable to let the corners go so light as to be virtually blank paper. The corners should be dodged in so that there is a definite indication of tone which may grow slightly darker toward the corners. This holds the eye in the picture space, while very white corners tend to let it slip out. Mr. Mortensen, for example, uses white backgrounds a great deal but a study of his pictures will show that he is always very careful to hold down the tone value of the corners. We would like to see the eyes placed a little higher in the picture space. This could best be accomplished by adding space at the base.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Graflex; 6" Bausch & Lomb lens; 1/30th sec. at F:5.6, on E. K. Panchro-Press, in DK-76; $9\frac{1}{2} \times 11\frac{1}{2}$ " print on E. K. Vitava Projection W, in D-52.

CAMERA CRAFT

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: A. B. De La Vergne, for the Denver Lensmen; Ante Kornic, for the Fotoklub Ljubljana; and Shavenau Monsen and R. F. McGraw, for the Pack Rats.

The following won prizes for their clubs in the Amateur Class: Gordon M. Tranter, for the Calgary Photographic Society; M. Desai, for the Photographic Society of India; and Grant Duggins for the Sierra Camera Club.

The following prize winners have no club affiliations: H. W. Wagner, Frank M. Jones and Ralph H. Anderson.

Contributing Clubs

Baltimore Camera Club (Md.)	Hayward Camera Club (Calif.)
Calgary Photographic Society (Canada)	Marin Camera Club (San Anselmo, Calif.)
Cleveland Camera Guild (Ohio)	Norfolk Photographic Club (Va.)
Cleveland Photographic Society	The Pack Rats (Pasadena, Calif.)
Cleveland Photographic Society Miniature Group	Photographic Society of India
Denver Lensmen (Colo.)	Photographic Society of San Francisco
East Bay Camera Club (Oakland, Calif.)	Pictorial Photographers of America
Florida Camera Club (Tampa, Fla.)	Reading Camera Club (Pa.)
Fort Dearborn Camera Club	Riverside Pictorialists (Calif.)
Fotoklub Ljubljana (Yugoslavia)	Sierra Camera Club (Sacramento, Calif.)
Fotoklub Zagreb (Yugoslavia)	Taft Camera Club (Calif.)
	Tasope Camera Club (Aurora, Mo.)

STANDING OF CLUBS

Large Clubs Advanced Class

Fotoklub Zagreb	14
Fort Dearborn Camera Club.....	13
Fotoklub Ljubljana	10
Miniature Camera Club of New York...	1

Large Clubs Amateur Class

Camera Club of Richmond.....	5
Miniature Camera Club of Oakland.....	4
Photographic Society of San Francisco..	4
Fotoklub Zagreb	3
Sierra Camera Club.....	3
Cleveland Photographic Society.....	2
Photographic Society of India.....	2

Small Clubs Advanced Class

The Pack Rats.....	15
Denver Lensmen	14

Small Clubs Amateur Class

Taft Camera Club	14
Calgary Photographic Society.....	6
Lancaster Camera Club.....	5
Riverside Pictorialists	4
Cleveland Photographic Society	
Miniature Group	2
Norfolk Photographic Club.....	1

SUMMARY OF COMPETITION RULES

1. Open to all, amateur or professional, club member or non-club member.
2. Closing date 1st of each month.
3. Place technical data, club membership if any, selling price, and whether or not you wish to exchange on back of print.
4. No entry fees or blanks required.
5. Stamps must be enclosed for return of prints.
6. Full explanation will be sent free on request or may be seen on Page 42 of January 1938 issue.

Club Notes

FORTHCOMING EXHIBITIONS

Internationale Foto-Kongress-Ausstellung. Address Rudolf Sulke, 5 Anton Frankgasse, Vienna XVIII, Austria. Closing date April 30, 1938. Entry fee 7 Austrian Shillings. Limit 4 prints. June, 1938.

Paris XXXIIIst International Salon of Pictorial Photography. Address M. le Secrétaire, 51, Rue de Clichy, Paris, France. Closing date June 30, 1938. Entry fee 40 francs. Limit 4 prints. October 1 to 16, 1938.

International Exhibition of Photographic Art in Mulhouse. Address Mr. Ch. Bosch, Treasurer, 31 Faubourg de Mulhouse Branstatt (Haut-Rhin) France. Closing date April 30, 1938. Entry fee \$1.00. Limit 4 prints. June 3 to 12, 1938.

Fifteenth Midland Salon of Photography. E. H. Bellamy, 20 Waterloo St., Birmingham 2, England. Closing date April 30, 1938. Entry fee 2/6 for three prints or less, 6d for each additional print. May 28 to June 26, 1938.

International Salon of Pictorial Photography at Lom U Mostu. Address International Photographic Exhibition, Lom U Mostu, Bruch, Czechoslovakia, or Edward Alenius, Holmes Brook Road, Basking Ridge, N. J. Closing date June 1, 1938. Entry fee 5 Swiss francs. Limit 4 prints. July 3 to 18, 1938.

Derby Railway Institute Photographic Society Exhibition. Address J. Radford, Central Order Office, C. M. E. Dept., Railway Institute, Derby, England. April 23 to 30, 1938.

Second Annual Fox River Valley Photographic Salon. Address Roy E. Scheils, Chairman, 305 S. Quincy St., Green Bay, Wisconsin. Closing date May 5, 1938. Entry fee \$1.00. Limit 4 prints. United States only. May 12 to 26, 1938.

1938 Baltimore International Salon. Address Salon Secretary, 2315 Homewood Ave., Baltimore, Maryland. Closing date May 10, 1938. June 10 to 30, 1938.

The Marshall Field & Company Second International Salon and Fifth Annual Photographic Competition. Address Marshall Field & Company, State, Washington, Randolph and Wabash, Chicago, Illinois. Closing date May 20th, 1938. Entry fee 50c.

Third Anthracite Photographic Salon. Address Miss Elizabeth Taylor, Salon Director, Everhart Museum, Scranton, Pa. Closing date May 7th, 1938. Entry fee \$1.00. Limit 4 prints. May 14 to 31, 1938.

Second Bangalore (All-India) Salon of Photography. Address Hon. Secretary, Photographic Society of Bangalore, No. 6, F Street, Fort, Bangalore City, India. Closing date May 5th, 1938. June 1938.

Seventh Detroit International Salon of Photography. Address Secretary, International Photographic Salon, Detroit Institute of Arts, Detroit, Michigan, U. S. A. Closing date May 10, 1938. Entry fee \$1.00, limit 4 prints. May 31 to June 26, 1938.

Ninth Chicago International Salon of Photography. Address Salon Committee, Chicago Camera Club, 137 N. Wabash Ave., Chicago, Illinois, U. S. A. Closing date August 24, 1938. Entry fee \$1.00, limit 4 prints. October 1 to 31, 1938.

Sixth Syracuse International Salon. Address Herbert N. Baker, Salon Director, Camera Club of Syracuse, 340 Montgomery Street, Syracuse, N. Y. Closing date November 4, 1938. December 4 to 31, 1938.

Twelfth Annual Open Exhibition of the Lincoln Camera Club. Address Hon. Exhibition Secretary, F. J. Codd, 309 Burton Road, Lincoln, England. Closing date September 10, 1938. Entry fee one shilling per print. October 6 to November 30, 1938.

Zeiss Exhibition in San Francisco

Carl Zeiss, Inc., will present an exhibition of photographs, taken with Zeiss Ikon Cameras, in the Italian Room of the St. Francis Hotel, in San Francisco, Calif., from April 27th to 30th. This is an outstanding collection of pictures illustrating

all phases of fine photography, amateur and professional, pictorial and candid, newspaper and theatrical, scientific and commercial, in black and white and also in color. This is an exhibition that no photographer can afford to miss. The Exhibition will be open daily from 10 A. M. to 9 P. M.

Stanley R. Jordan To Hold Life Class in Photography

Stanley R. Jordan, well known San Francisco photographer, will open Life Classes in Photography, beginning April 18, 1938. Classes will be conducted in the same manner as classes in art schools except that students will photograph the models instead of drawing the figure.

Lighting and Posing will be emphasized in the course and the prints of students will be discussed and criticized. Different types of models will be used in order to give students the benefits of instruction with various types.

Enrollments will be accepted on Saturdays only, from 10 A. M. to 4 P. M., and 10 students will be the limit for any one class. Classes will meet once a week for four weeks, from 7:30 to 9 P. M., and the fee will be only \$6.00.

For further details write Jordan Photographer, 270 Sutter St., San Francisco, Calif., or phone EXbrook 2308 or WALnut 4200.

Photographic Society of Philadelphia

At the annual election of the Photographic Society of Philadelphia the following officers were selected to guide the group during the coming year: Robert A. Barrows, President; E. Howell Smith, Vice-president; John Allen, Vice-president; Richard D. Tift, Secretary, and J. J. Baylson, Treasurer.

Third Annual Bohemian Club Photographic Exhibition

The Bohemian Club of San Francisco announces the Third Annual Bohemian Photographic Exhibition of members' work from April 30th to May 14th, inclusive. Admission is by invitation of club members for the first week only. The following men will make up the Jury of Selection: Rolla Watt, John Worden, Tiley L. Ford, Francis Farquhar, Fred S. Herrington, H. B. Blatchly, John Gwynn, and Gabriel Moulin.

Third Rollei Salon on West Coast June 1st to 14th

We have just received a notice from Burleigh Brooks, Inc., to the effect that the Third Rollei Salon (first being shown at Rockefeller Center, New York City, May 2nd to 8th) will be shipped out to the West Coast late in May.

The Western showing will be held at the Photo Art Print Gallery, Monadnock Bldg.,

San Francisco, Calif., from June 1st to June 14th. All Rollei enthusiasts and others interested in advanced amateur and professional photography are cordially invited to attend.

The Baltimore Camera Club

The Baltimore Camera Club reports excellent attendance at their meetings, which are now held every Tuesday evening at the Municipal Museum, 225 N. Holliday St., Baltimore, Md. The club has been fortunate in securing a fine series of speakers for their meetings, some of those who have lectured in the past few weeks are: Mr. John P. Mudd, Dr. Maximilian Toch, Mr. A. Aubrey Bodine and Mr. W. M. Hammond. Club contests are receiving heavy entries and are hotly contested. Correspondence should be addressed to the Secretary at 2313 Homewood Ave., Baltimore, Md., and visitors are always cordially received at meetings.

Edward Weston To Wed Charin Wilson

Miss Charin Wilson, daughter of Harry Leon Wilson, famous Carmel novelist, is shortly to become the bride of Edward Weston, internationally renowned photographer. Miss Wilson has been Mr. Weston's assistant for the past year in working on the photographic history of the West, under a Guggenheim Fellowship. Mr. Weston has just been awarded his second Guggenheim Fellowship and will continue his documentary series of the West.

Photographic Contest At New Jersey State Fair

The Trenton Camera Club announces a Photographic Contest to be held at the New Jersey State Fair, Trenton, N. J., September 25 through October 1, 1938. Entries are limited to residents of New Jersey, New York and Pennsylvania.

For further information write to Mrs. Helen V. Stearn, New Jersey State Museum, State House Annex, Trenton, N. J.

Third International Exhibition of Photographic Art in Ljubljana

The Fotoklub Ljubljana announces the Third International Exhibition of Photographic Art in Ljubljana, to be held from September 1st to 12th, 1938. Entry fee is Sfrs. 5. No more than four photographs can be accepted from a contributor and the closing date is July 15, 1938. Inquiries for detailed information and programs, as well

as entries for the exhibition should be addressed to Fotoklub Ljubljana, Ljubljana, Levstikova ul., Jugoslavia.

New York Camera Club To Hold Salon

The New York Camera Club announced this month that it will sponsor The New York Salon of Photography, to be held at the Club's Galleries, from October 30th to November 20th, 1938. Any resident of the U. S. (its territories and possessions) and the Dominion of Canada is invited to submit prints. Entry fee is \$1.00 and entries

are limited to four prints from a single contributor. Closing date is October 1st and entry blanks may be obtained by writing the Salon Committee, 121 West 68th St., New York, N. Y. The Camera Club, one of the oldest and most respected photographic organizations in America, is justly noted for the special exhibits and invitational salons which it has sponsored in the past, and it is expected that the forthcoming New York Salon of Photography will prove to be one of the outstanding exhibitions of the year.

Notes and Comments

Sasco Photo Products

The Sasco Photo Products, 1036 Wooster St., Hollywood, Calif., announce two items of great interest to all photographers.

The "Sanderscreen" offers amateur photographers, for the first time, the benefits of the Sanders Process screen developed by Sidney A. Sanders, for the motion picture industry. These screens are used by leading motion picture studios, throughout the world, and won awards of the Academy of Motion Picture Arts and Sciences for technical achievement in 1932-33. The "Sanderscreen" is an exact miniature edition of the screens used by the studios and may be adapted to a variety of valuable uses. It is claimed that Kodachrome may be duplicated by projecting on the "Sanderscreen" and rephotographing it and, while perfect reproduction is not claimed by this easy method, very satisfactory results are reported by the manufacturer. Some of the other many uses are: 1. The creation of composite pictures by the rear projection method. 2. The making of Shadowgraphs." 3. Superimposing movie titles on pictorial backgrounds. 4. Making color separation negatives on panchromatic film from Kodachrome transparencies and in making color prints by the Eastman wash-off method. 5. It is naturally a great asset for table-top photography. The "Sanderscreen" is also an excellent viewing screen for both color and black-and-white projection giving the pic-

tures an unusual degree of brilliance and third dimensional effect. The "Sanderscreen" is sturdily constructed for long wear and the price of \$27.50 includes complete instructions on its use.

The Sasco Rapid Print Washer may be used in any sink, laundry tray, wash bowl or bath-tub. It is quickly set up or removed. It consists of an adjustable stopper, which keeps the water at a constant level, and a hose that is connected quickly to the faucet. The hose also has a suction cup so that the stream of inflowing water may be secured easily in any desired position. The Sasco Rapid Print Washer will wash prints thoroughly and quickly and is available for the low price of \$2.50.

You may see these two products at your dealer's or further details may be had from Sasco Photo Products, 1036 Wooster St., Hollywood, Calif.

Arc Lens Shade Introduced By Chess-United Company

Chess-United Company, 21st Street and Fifth Avenue in New York City, announce that their newest photographic accessory, the Arc Lens Shade, is now available at photographic dealers. The Arc Lens Shade has been scientifically designed for working with or against the light. It helps produce clearer, crisper pictures, entirely free from lens flare. Its unique, tapered shape eliminates cut corners, resulting in full size, evenly registered negatives. It may be easily and firmly attached to all stan-

dard lens mounts. If your dealer cannot supply you, write to the Chess-United Company.

Central Announces New Photographic Almanac

Do you want valuable suggestions on How, When and Where to take your best pictures? Then write Central Camera Company, 230 So. Wabash Avenue, Chicago, for a free copy of their new 1938 edition of the Photographic Almanac. A special month-by-month illustrated Photographic Calendar telling you how, when and where to take your best pictures, is featured. In addition, this Almanac contains: A special article by a leading photographic writer; handy exposure table, film and plate speed table guide to correct exposure; indoor exposure guide; and hints for better pictures. Besides these pages of much needed information, the new Central Almanac contains over 100 pages describing all the latest developments in photography—hundreds of still and movie cameras, films, lenses, enlargers, chemicals—everything photographic—many at substantial savings and all guaranteed on a ten-day money-back trial. Write today for your free copy of this new, big 128-page Photographic Almanac and Bargain Book of Cameras and Supplies! (Please mention this magazine when writing.)

Bausch & Lomb Develop New Lens For Aerial Photography

The Bausch & Lomb Optical Co., of Rochester, N. Y., have perfected a new lens for aerial photography called the "Metrogen." This new lens will take three times as much area, from a given altitude, and has also almost completely eliminated distortion, a tremendously important factor in aerial map making. The Metrogen covers 90 degrees of the field and has a focal length of $5\frac{1}{4}$ inches. For further details regarding the Metrogen Lens write Bausch & Lomb Optical Co., Rochester, N. Y.

Hollywood Enlarger-Projector

The Hollywood Photo Supply Co., 5855 Hollywood Blvd., Hollywood, Calif., offer the Hollywood Enlarger-Projector, a single piece of equipment with many uses. It is designed for 35mm. film but will accommodate one-half vest pocket size nega-



Hollywood Enlarger-Projector

tives. As an enlarger, it has innumerable special features including a heat absorbing filter, a revolving head, extension arm, new type negative holder, extra large base-board, double condenser system, F4.5 lens and spiral focusing mount. With a simple turn of the revolving head, the enlarger is converted into a fine projector. This ingenious device lends itself to still another use. With a few simple adjustments, the Enlarger-Projector can be converted into a micro-photography and copying stand. The Hollywood Enlarger-Projector with its many valuable uses should prove a joy to the miniature camera fan. For complete details, write the Hollywood Photo Supply Co. at the above address.

Titling Reduced to Simplest Terms

Truly striking titles can now be produced by the simplest technique imaginable. Sponge-rubber letters provided with a special suction-pad are simply pressed in place on any smooth hard surface such as cardboard, glass, mirror, wood or any photograph or picture. Letters stick tight-

ly yet can be instantly removed merely by lifting up a corner or side. Thus the letters are used over and over again for no end of different titles and effects. The first insignificant cost is the last cost.

Spell-O-Tex Titling Sets come in a standard font mounted in a handsome permanent file book, complete with alignment gauge and plain title background, sell for only \$5.25. Letters are available in silver for title shooting with any reversal film, in black or direct positive titles, or in blue for technicolor. Letters are picked out of file book and pressed in place on titling board or other surface. No adhesive required. No preparation of any kind. No skill required. Letters can be arranged in straight lines, curved lines, horizontally or vertically, and in fact, in no end of varied layouts.

Leading photographic dealers are now carrying these Spell-O-Tex Titling Sets. However, if any dealer cannot supply a set, the order may be sent direct to Besbee Products Corporation of Trenton, N.J., and kit will be sent post-paid on receipt of money order or check.

An Explanation

During the printing of the April issue of *Camera Craft* a piece of type was damaged in the advertisement of the Bass Camera Co., of Chicago, Ill. The Bass Bargainingram offered the Dollina II Camera at \$49.75 and the figure 4 was partially defaced so that the price might have been mistaken for a lower price. *Camera Craft* regrets the inconvenience this may have cost both the Bass Camera Co., and the interested buyers.

The Printometer For Enlargements and Contact Prints

The Printometer, a new meter for timing enlargements or contact prints is bringing to our dark room printing operations the precision and accuracy we now enjoy in timing our exposure when making negatives. The Printometer operates on the principle of matching a known light intensity with an unknown intensity. Two comparison fields are provided, one for comparing the light from beneath the instrument (for contact printing)—the other for comparing the light from above for projection printing. The instrument is

scientifically designed to quickly indicate both the contrast grade of paper to use and the correct exposure time. It enables you to favor the denser or lighter portions of your negative at will—and also indicates the increased exposure time necessary for dodging or local printing. The Printometer sells for \$12.50—quickly pays for itself in better prints and paper saving. Write Burke and James, Inc., 223 W. Madison St., Chicago, for additional details.

Albert Specialty Company to Supply Trojan, Royal, and Viceroy Photographic Equipment Direct to Dealers

Merchandise manufactured under the familiar brand names of Trojan, Royal, and Viceroy, which have formerly been distributed exclusively through the Central Camera Company, will hereafter be distributed direct to all photographic dealers from the new Albert Specialty Company located at 231 South Green Street, Chicago, Illinois.

According to Seymour Jacob, manager of Albert Specialty Company, this step releases a complete line of popular photographic equipment to photographic dealers everywhere at very attractive discounts. The following list of products of the new Albert Specialty Company should be of interest to profit-minded dealers:

Cameras—Altissa, Altiflex, Goldi, Ysette, Bettax, Eho Stereo. **Lenses, Filters and Sunshades**—Cenei sunshades, Arnz Ultra-sorban filters. **Tripods and Tilt Tops**—Royal tripod, Royal tilt top, Viceroy tripod, Viceroy tilt top, Royal Midget tripod, Improved Trojan tilt top. **Lighting Equipment**—Trojan stand and clamp-on reflector, Realite stand and clamp-on reflectors. **Enlarging Equipment**—Sun Ray enlarger, Federal enlargers. **Meters**—Trojan range-finder. **Retouching Equipment**—Trojan retouching sets, Photopure opaque. **Dark-room Equipment**—Amateur photo trays, Trojan developing sets, stainless film clip, Trojan print tongs, Trojan E-Z film washer, all metal amateur print frames, adjustable print masks, squeegee rollers, squeegee polish, Hi Gloss sets, Velvetone blotter books, Trojan drying press, Trojan print flattening set, Velvetone print flattener. **Developers and Fixers**—Micrograin

"85", Perim, Pertone, Photopure acid fixer, Photopure hypo, Champlin's developers, **Filing**—Universal film chest, negative filing box, movie film chests. **Miscellaneous**—Cases for all cameras, Marshall slide binder.

For further information address the Albert Specialty Company, 231 South Green Street, Chicago, Illinois.

The S & S Selectroslide

Spindler & Sauppe, Inc., 86 Third St., San Francisco, Calif., announce the S & S Selectroslide, a device of immense importance to lecturers, schools, advertisers and the miniature photographer. The Selectroslide is quickly and easily attached or removed from the famous Leitz Projector Model VIII-S. Its function is to change automatically the 2" x 2" slides now so popular for projection. The Selectroslide magazine holds up to 48 slides and magazines may be changed in a few seconds. The changing of slides is completely automatic and the viewing time of the individual slide may be set as desired. An additional setting called "Remote Control" permits the operator to change slides at will, by pressing the control button. Changes are made in approximately 3 seconds.

Complete descriptive material may be had upon request from Spindler & Sauppe, Inc., at the above address.

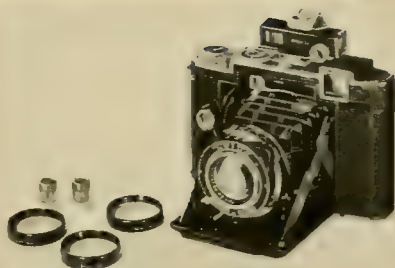
Kalart Synchronized Range Finders Now Available for Smaller Cameras

Kalart Synchronized Range Finders are now available for thirty-six 9 x 12 cm. and 2¼ x 3¼ inch cameras and lens combinations.

Model "K" fits the following popular film-pack and plate cameras: 9 x 12's with either 13.5 or 15 cm. lenses—Recomar, Ideal, Maximar, Tourist, Ihagee, Zeca, Avus, Bee Bee, Welta, Balda, Nagel, Nixe; 2¼ x 3¼ inch cameras with either 10.5 or 12 cm. lenses—Recomar, Ideal, Maximar, Tourist, Ihagee, Bee Bee.

The Zeiss Ikon Contameter

The Contameter provides a convenient means for making photographs of subjects close to the camera without the bother of ground glass focusing. Pictures of flowers, insects, specimens in the field or laboratory, miniature table-top sets, etc., can be composed, focused and photographed with al-



*Zeiss Super Ikonta B
with Contameter*

most the same outstanding speed and ease that marks ordinary picture-making with the Contax or Super Ikonta B cameras.

This device also makes photography easy in a field that is of especial interest in Springtime—color photography of flowers and fruits, of butterflies or birds. Whether you wish to photograph precious stones, rare stamps, coins, or small museum pieces, the Contameter proves invaluable. Physicians and dentists are finding it of great aid in the making of slides showing close-ups in color or black and white of unusual cases for later study or for use in illustrating lectures.

The Contameter is an accessory that combines a supplementary distance meter for focusing with a view-finder in one large opening. It is slipped into the shoe on top of the camera. Three supplementary lenses make it possible to focus quickly and accurately at approximately 19 inches, 12 inches or 7 inches distance from the camera lens—while at all times, in the same opening, the view that will be included in the picture is clearly seen. Color filters may also be used.

The set consists of the Contameter, three supplementary lenses, and three interchangeable prisms in cylindrical mounts. It is available for the Zeiss Ikon Super Ikonta B and Contax cameras.

New Willoughby Catalogues

Willoughbys, 110 West 32nd St., New York, N. Y., announce that three new catalogues are now ready for distribution.

Photographic Supplies Catalogue No. S-338 contains 56 pages of items regularly stocked by Willoughbys.

Bargain List No. 338 lists 28 pages of amazing bargains in all kinds of photographic equipment and supplies.

Equipment and Accessories Catalogue contains 80 pages of valuable information with a full description of the items illustrated.

Each of these catalogues will bring you a wealth of important information and all will be supplied free upon request to the above address.

Western Photographic Dealers' Convention

On April 6th and 7th, Western photographic dealers convened in San Francisco, at the Whitcomb Hotel. The meeting enjoyed a fine attendance and both dealers and exhibitors expressed their satisfaction. The program consisted of many fine lectures on merchandising problems, business meetings, a photographic expedition to Treasure Island, site of the 1939 Fair, and a banquet on the final night.

At the last business meeting, a permanent organization was formed and Fred Schneider, of Stockton, was elected President and C. J. Verhalen, of Hollywood, was chosen Secretary-Treasurer. Under their guidance the Western Photographic Dealers can look forward to future important meetings.

Convention of the Associated Photographers of the Sacramento and San Joaquin Valleys

On April 23rd and 24th, the Convention of the Associated Photographers of the Sacramento and San Joaquin Valleys will be held in Sacramento, Calif., at the State Fair Grounds. A fine educational program will be the feature of the convention and manufacturers and dealers will exhibit the latest in photographic equipment and supplies. There will also be a fine exhibition of photographs. A large attendance is expected and under General Chairman Earl M. Cilley, of Marysville, this convention will undoubtedly be one of the finest ever staged by the Association.

New Agfa Films

The Agfa Ansco Corporation of Binghamton, New York, whose amazingly fast new films have won such wide acclaim in still photography have been honored by the highest award of the motion picture industry, the Class I award for technical achievement by the Academy of Motion Picture Arts and Sciences. Agfa now offers their

new films in a large variety of sizes and types.

Agfa Superpan Supreme 35mm. Film will replace the Fine Grain Superpan formerly supplied. This is the same film that won the Academy Award and it offers many technical improvements. Speed has been increased approximately one hundred per cent, making the film twice as fast as the Superpan it replaces. At the same time the grain size has been reduced to a remarkable extent and the brilliance of the film is greater than that of the Superpan film. Anti-halo protection is provided by a gray underlayer and an invisible surface coating has been incorporated to minimize abrasion marks.

Agfa Superpan Press is now available in roll film and film packs in addition to the regular cut film sizes in which it was first supplied. The film is four times faster than any panchromatic film of the supersensitive type previously available. Color sensitivity is of the balanced panchromatic type and the grain size has not suffered from the great advance in speed but is slightly finer than previous supersensitive films. The cut film sizes in which Agfa Superpan Press have been available have also been increased and are now available in these new sizes: 6.5 x 9cm.; 2¼ x 3¼ inches; 2½ x 3½ inches; 11 x 14 inches and 12 x 20 inches.

Agfa Fine Grain Superpan in film spools for the Robot Camera. The new film spools contain sufficient film for thirty Robot exposures and offer Robot users the benefits of this supersensitive panchromatic fine grain film. As yet, the new Agfa Superpan Supreme is not available in Robot Spools.

All these new films are now in stock at photographic stores throughout the country.

Nicholas Haz To Open Summer Courses

Finishing his successful lecture tour of the world, in London where he spoke before the Pictorial Group of the Royal Photographic Society of Great Britain, Nicholas Haz is once more in the United States. He will open his summer school, which has been so popular in former years, offering instruction in composition. Those interested should write to Nicholas Haz, 27 Park Ave., New York, N. Y.

Exhibit of Color Photography

The Color Photography Supply Company, manufacturers of the Devin One-exposure Tricolor Camera and Devin Carbon tissue for tricolor pigment printing, announces an exhibit of the work of America's leading color photographers, to be held in the International Building at Rockefeller Center, New York City, from May 21 to May 29, inclusive.

Among the prominent color photographers whose work will be shown are Anton Bruehl, Fidelis Harrer, Paul Hesse, Victor Keppler, Martin Munkacsy, Nickolas Murray, Paul Outerbridge, Valentino Sarra.

In addition to the exhibit of color prints, a number of educational exhibits will be given, notably a motion picture, in color, of the process of making color prints by the tricolor pigment (carbonyl) process.

A new small color camera, 6.5 x 9 cm. (2½ x 3½ in.), built exactly the same as the larger cameras used by these leading color photographers, but with additional refinements such as automatic focussing, and at a price well within the reach of advanced amateurs, will be introduced at the exhibit.

New Store Opens in Chicago

Chicago's downtown area has a new photographic store, The La Salle Camera Co., 133 W. Jackson Blvd. Owned and operated by William A. Lieberman and Charles P. Goldboss, the new store stocks a complete line of photographic equipment, at this Board of Trade Building location. According to general comment, the appearance of the store ranks with the finest establishments in the country and Chicagoans are indeed fortunate to have another fine house to cater to their needs.

Rabsons Offers Equipment On Installment Basis

The well known firm of RABSONS, 1373 Sixth Ave., New York City, are now offering all standard makes of cameras and movie outfits on an installment basis with one year to pay. For complete details write RABSONS at the above address, stating the kind of equipment in which you are interested.

S. F. Studio Offers Unique Service

The Dorothy Farrier Studio, 228 Grant Ave., San Francisco, is offering photogra-

phers of this city a valuable service. Their fully equipped modern studio can be rented by individuals and groups who wish to work under ideal studio conditions. The studio is 30 by 40' with ivory walls and a new parquet floor. It is equipped with a stage, mirrors, flood-light and a complete set of photographer's lights on stands. There is also a black Duvetyne drop and a white drop for backgrounds.

The Studio also operates the Models Central Casting Agency, bonded and licensed in the State of California, and they have registered every type and size of model, male and female, from ages of six weeks to eighty years.

Those interested may write the studio at the above address or phone SUtter 0233.

School of Photography At Chicago Art Institute

Added recognition of the increasing importance of photography as an adjunct of art is the appointment of Kenneth J. Heilbron, photographic illustrator, as head of the new school of photography of the Chicago Art Institute.

Full time students in the day school are evidencing much interest in photography as a supplement to their conventional studies, it is reported.

Mr. Heilbron's classes are held two mornings each week. Essentially practical, the course includes dark room procedure and other technical phases of photography. Those interested may obtain additional information from Kenneth Heilbron, 139 E. Ontario St., Chicago, Ill.

The Morse Gun Mount

The Morse Instrument & Machine Co., Hudson, Ohio, announces the Morse Gun Mount, which Leica and Contax users will find ideal for telephoto action shots. The camera is firmly mounted on a gun stock that permits the photographer to aim it perfectly, easily following the fastest action. It has an extremely sensitive trigger release mechanism and the design permits the operator to change focus while maintaining a firm grip on the stock with both hands. Of aluminum alloy construction, the Morse Gun Mount weighs less than four pounds, and is priced at \$68.00. See it at your dealer's or write the Morse Instrument & Machine Co., Hudson, Ohio, for further details.

Our Book Shelves

Dictionary of Photography, by E. J. Wall and F. J. Mortimer. Published by American Photographic Publishing Co., of Boston, Mass. 634 pages, 5 x 7½, price \$2.50, cloth bound.

This excellent volume has already sold through thirteen editions and this, the fourteenth, brings a revised and up-to-date book of unusual value to photographers, amateur or professional.

It lists all the pertinent and essential material on photography in alphabetical order for easy reference. The information given is thoroughly complete but boiled down for quick digestion to the absolutely necessary facts. The book is thoroughly practical and all working information is included.

Every photographer needs this handy book in his library and it should be understood that this is not only a book of formulas and processes but that material is offered on all phases of photography.

Photography Today, by D. A. Spencer. Published by the Oxford University Press of London and New York. 160 pages, 5½ x 8½, price \$1.50, cloth bound.

"Photography Today" offers a brilliantly clear exposition of photography with special emphasis on the underlying principles. In other words, this book does not stress the revolving wheels but what makes them go around.

These fundamental principles are all-important in photography and those who have failed to understand them are working under an insurmountable disadvantage. It is possible to hope and pray and press the button and now and then to get a picture but for consistent results and the ability to take the picture when you find it the fundamentals are essential. Mr. Spencer has made these principles crystal clear and easy to understand both by his text and excellent use of illustration and this book is earnestly recommended to all be-

ginners and any who have attempted to skip their groundwork.

Mr. Newhall, who arranged the excellent show at the Museum of Modern Art and wrote the valuable foreward in "Photography 1837-1937," lists Mr. Spencer's book among his recommended titles.

News Pictures, by Jack Price. Published by The Round Table Press of New York City. 192 pages, and 48 pages of illustrations, cloth bound, price \$3.50.

The author of this volume, Jack Price, perhaps, the most famous of all news-cameramen, was for years the ace cameraman of the "New York World". Now Mr. Price is Camera Editor of the "Editor & Publisher", as well as a lecturer in many schools of journalism. No one can speak with better authority on this subject, and now that the author has had time to study his subject from a broader viewpoint, his words are doubly valuable.

"News Pictures" offers a thoroughly, complete study of news photography, which daily grows in importance, for as the famous Mr. Howard of the Scripps-Howard Newspapers says in the book's introduction, "The news picture has become as essential an ingredient of today's newspaper, as is cable news or local news coverage".

The book begins with details of newspaper routine and proceeds through a detailed analysis of every type of news picture, and finally explains the use of all types of cameras in news work, as well as the special equipment of this field. Developing and printing technique are also exhaustively treated as are the latest developments such as radio picture transmission.

"News Pictures" will prove equally valuable to the aspiring news photographer, the free-lance cameraman, and the camera journalist. Incidentally, Mr. Price intersperses his instruction with many comments for the two latter classifications, explaining how the free-lance worker can take advantage of his many opportunities.

CAMERA CRAFT

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"Ronney"

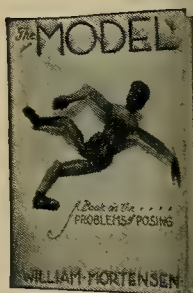
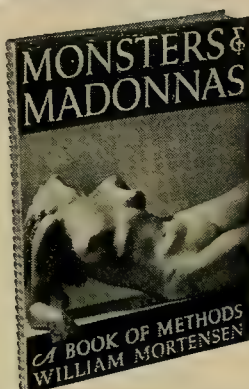
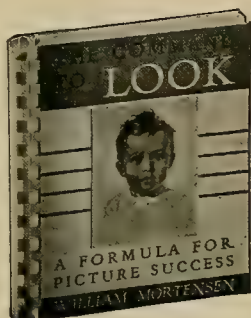
Kodak International Salon, 1938

Pauline Wolf

1938
FOR IN PHOTOGRAPHY, PART 1
CONCEPT OF MOVEMENT

PRICE 25c
William Mortensen
Walter Bunnell

A MORTENSEN LIBRARY



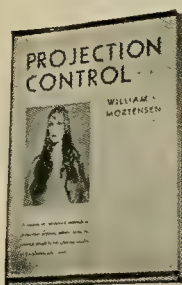
The Command to Look, A Formula for Picture Success, in which the master pictorialist sheds new light on the art of picture making. He presents a revolutionary approach to the secret of making effective pictures and a startling introduction to the problems of composition based on a simple workable formula. 55 illustrations of Mortensen's best work, with a cover picture in full, natural color, beautifully bound in white plastic **\$2.00**

The Model, A Book on the Problems of Posing, is a thoroughly complete treatise on the posing and directing of models. The problems connected with the posing of every part of the figure are exhaustively studied and finally brought together for the completed pose. 272 pages and 268 especially prepared illustrations. The greatest book value ever at **\$3.00**

Pictorial Lighting will simplify your lighting problems in two important ways. **Simplified in execution,** the author explains clearly and simply just how his famous lightings may be obtained. **Simplified by great reductions in cost,** for only two inexpensive lighting units are used that are well within the means of the most modest purse. Profusely illustrated, with diagrams giving exact measurements for lighting set-ups **\$2.00**

Projection Control is concerned primarily with describing the four methods the author uses to control the image during projection: framing, local printing and "dodging in," alteration or distortion, and combination printing and montage. They enable the photographer to greatly enhance the pictorial effectiveness of his pictures. Also invaluable sections on equipment, exposure and developing technique..... **\$1.75**

Monsters & Madonnas, one of the most unusual photographic books ever published, has two purposes. First, it presents 20 beautiful photogravure reproductions of Mortensen's work, prepared and arranged so that they may be removed for framing without damaging the book. Secondly, accompanying each picture is a complete exposition of the methods used in producing the print and the artistic principles involved. **\$4.00**



By the greatest photographic author and artist of today

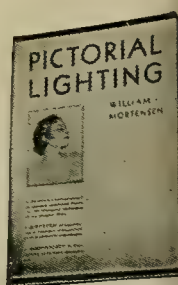
William Mortensen

FROM YOUR DEALER OR

Camera Craft Publishing Company

425 Bush Street

San Francisco, Calif.





"Papa and His Pipe"

William Mortensen

Color In Photography

William Mortensen

Part II

ONE compensation for the nervous, jittery age in which we exist is its preoccupation with color. One can tell a great deal about people and periods of the past by their attitude towards color. The Victorian age, for example, showed very little feeling for color, if not a positive abhorrence of it. It was a period of murky and dirty tones—olive greens, non-committal browns, maroons and dust grays. This period, indeed, has been described as "the brown decades." In the nineties, there was a momentary flare of color, but touched with end-of-the century decadence and self-conscious delicacy.

In the days soon after the war, there were vague stirrings of desire for color. But there was no feeling for sense or propriety in color. It was merely a yearning for added excitement. So we just reached for a pot of bright paint (the particular color didn't much matter) and painted up whatever happened to be in reach—our doors, our faces, the trim of our houses, our shop fronts. This was the period of Greenwich Village and all the tea shops in orange and black.

After the orange-and-black period, interest in color subsided again for a while. This was during the flourishing of "functionalism" in architecture and decoration, when buildings were made to look like ice-boxes, and ice-boxes were made to look like burial vaults. Of course, a strict functional point of view didn't allow much scope for color, save as it was supplied by the limited range of natural wood and stone.

But now color is with us again. People are suddenly becoming aware of colors that have been with us all the while—the sparkle and glitter of Nature, the tints splashed all about us. And having tasted the strong wine

of color, we are demanding more and more of it. The paint pots and the dye pots are at work again, and we are off on a color binge.

Our present liking for color has something violent and hysterical about it. It is symptomatic of the nervous excitement and restless uncertainty of the times. Something calamitous seems to be pending, we know not what. So, while the world slips irrevocably toward the abyss, we paint the town red.

The present vogue for color in photography partakes of the same general trend. For forty years at least, the basic principles for making photographs in color have been known, but the public hasn't been interested in the matter at all. And then, over-night almost, the photographic public discovered color, wanted color, demanded color. And with scarcely any delay, the manufacturers supplied them with color. Amazing facilities for processing put photographic color within the reach of almost everyone.

And dozens of magazines, whose pages up to now have been chastely black-and-white, break out into a red, green, yellow and blue rash. It is momentarily very exciting to us, this erupting into gobs and splashes of color. But so far we reveal little more understanding and appreciation behind our enthusiasm for these bright hues than does a baby with a color book and a box of paints. Most of the work in color today, indeed, partakes of this nature. Gurgling with childish glee, we slap on the color. It doesn't seem to matter much what kind of color, or how appropriate it is, or where it hits. It is color, at any rate, and lots of it.

And so we have the extraordinary spectacle that photographic color offers today. Magnificent processes—and no sense of how to use them. Dozens of magazines breaking out into color—and few of them printing anything that wouldn't disgrace a good calendar. Hundreds of thousands of dollars spent every month on color engraving—and nothing to show for it.

It is a fact that nearly all the work appearing in photographic magazines fails to give *any* sort of just impression of the potentialities of color. If they were good as pictures, we might overlook some deficiencies in the color. Or if the color was good, we might forgive some shortcomings in composition and presentation. But, by a colossal maladroitness that approaches genius, they manage to be bad both as compositions and as examples of color.

Of course, it is only the present ignorance of the public on matters pertaining to color that permits these magazines to impose such monstrosities on their readers. But, although it may be a little slow on the uptake, the public *does* catch on eventually. And when it does, the magazines will be under the unpleasant necessity of explaining their frantic enthusiasm over the obviously fourth-rate color work that has disfigured their pages. The public may be dumb; but at least it is aware that a sky should not look as though it was tinted with bluing and a dash of red ink. The public may be credulous; but it cannot be persuaded to believe for long that human flesh in any way resembles pink bread dough. The public may be easily deluded; but it can't be kidded into thinking that poses and lighting which would be recognized as preposterous in any amateur's snapshots can become acceptable by the mere addition of color. The public may be



"Track"

George Maloney

Kodak International Exhibit, 1938

a bit fuzzy-witted; but it is quite capable of understanding that it takes more than a synthetic Russian moniker to make one a "distinguished authority on color."

Most of the colored illustrative matter now appearing is nothing but snapshots—and very bad snapshots at that—made on Kodachrome. Under these conditions, it is obvious how artificially concocted are the reputations of most of the "authorities" and "artists" now being exploited. Anyone capable of loading a camera with Kodachrome and taking a reading from a Weston meter is certain to secure fairly passable results in color. No especial credit belongs to the photographer—except for following directions. The glory goes to Eastman, for Eastman makes the film and Eastman does the processing. Any reasonably skillful amateur should be able to do work just as good as that of the "experts." In fact, they should do *better* work if they exercised taste and discretion in the selection of subject-matter.

Unhappily, until such time as the public realizes the peculiar and persistent badness of most of the color work appearing within magazine covers, it is bound to be influenced by its dubious example. The amount of money and effort that is being spent in trying to emulate these vicious blue skies and livid pink complexions is something too depressing to contemplate. All in all, it is perhaps a kindly dispensation of Providence that the costs of engraving color plates are so exorbitant. One thing could be worse than the prevailing trend of modern photographic color. That would be twice as much of it.

There are two general reasons for the present low level of photographic color in magazines. These two are:

1. The deficiencies of the photographer.
2. The limitations laid upon the engraver.

There are two ways in which the photographer is liable to be at fault. In the first place, he is usually lacking in any general knowledge concerning the use of color. The arranging of material in the terms of color is very difficult and requires special knowledge and experience—neither of which is possessed by most of those working in color today. The problems involved in even the simplest of color combinations are of a subtlety quite unappreciated by the average worker.

In the second place, most of those working in color reveal a complete lack of consideration for even the simplest and most primitive rules of composition. Even when regarded merely as candid shots, the average color job today is woefully lacking in any sense of arrangement, and shows less feeling for compositional values than many amateurs show in their casual snapshots.

The primary offender in the present situation in magazine color is, no doubt, the ignorant or ill-prepared photographer. A frequent collaborator—but usually an unwilling one—in his pictorial offences is the engraver who makes the color plates.

Too heavy blame should not be attached to the engraver for his part in present day color reproductions. He is unquestionably direly handicapped by limitations that present conditions lay upon him.



"In The Spring"

George Maloney

Kodak International Exhibit, 1938

In the first place, he is handicapped by the third and fourth-rate material that is handed to him to work with. He has to cope with badly made carbros and wash-off reliefs. He has to make the best of botched Chromotones. And, when he deals with Kodachromes, he has to contend with the predominance of the miniature camera among workers in this process. Excellent as the miniature transparencies are, they are much too small for conversion into adequate color reproductions.*

Even under these conditions, it is true that the engraver often manages to improve on the color relationships of the original. A good deal of color work nowadays owes whatever virtue it has to the thoughtful ministrations of the engraver. But he can't work miracles, and if there isn't a *picture* there to begin with, even the best of engravers can't make one.

The engraver today is also severely handicapped by the limitations of time and money due to labor costs and modern hurry-up methods. There is little disposition to spend either the time or the money to get the best job possible. Fine color engraving is largely a labor of love, and labor under these terms is not to be had in modern commercial establishments.

It is unfortunately true that really gifted and competent color engravers are very scarce in this country. Of the beautiful work that is *possible* in this line of endeavor—and has been possible for a long time—we have ample evidence in the magnificent color of the Seemann and De Medici prints. More recent examples of fine color engraving are seen in the output of the Phaidon Press, for which the color plates were made by Angerer and Goeschel of Vienna. The loving and scrupulous care which these workers have lavished on their plates is unhappily lacking in commercial engraving establishments in America.

The first step toward improving the present output in color would seem to consist in awakening the worker to the fact that color photography is not just a development or an amplification of the old black-and-white medium. It isn't just photography with color added. It is, instead, another quite *different* medium. As such, its requirements and idiom are also different.

Therefore, one who has acquired some experience and taste in the black-and-white medium needs to reorganize his ideas before he takes up color. The similarities between the two mediums are obvious, but they are apt to be more misleading than helpful.

A picture that is effective and satisfying in black-and-white is never improved, and generally weakened, by the addition of color. This is because the picture has been definitely planned and organized in terms of black-and-white, and the intrusion of color upsets the delicate relationship of lines and tones. As a simple instance, a certain picture may focus the attention by means of a strong contrast of light and dark tones near the center of interest. But color might (for example) introduce a strong note of red near the edge of the picture. This bit of red would probably prove more arresting than the contrast of tones, and the whole plan of the picture would thereby be thrown out of joint.

* The Metal-krome process, which is a conversion method, is not subject to these limitations of size.



*Compare With
Frontispiece*

Conversely, a picture that is composed in terms of color is definitely weakened when converted into black-and-white. Note the picture on this page, which is a black-and-white version of the frontispiece. Notice how gray and ineffectual it is when the color is removed. The principal planes and masses in the frontispiece depend upon color for their separation and differentiation. When the color is removed, they merge confusingly. And such amusing intimate details as the red cap are, of course, quite ineffective in the black-and-white version.

Much of the present confusion about the two mediums will undoubtedly be cleared up as soon as the excitement of the contemporary vogue for color subsides a little. Many people will give up color and return gratefully to the more austere and stylized convention of black-and-white. For, undoubtedly, black-and-white is better suited to the needs of some talents and temperaments. Others, who have been ill at ease in black-and-white, will find their metier in color and will learn to express themselves best in terms of the sentimental warmth and intimacy that only color can bring.

Still Photography And The Concept Of Movement

Walter Bunnell

IN a motion picture objects move—that is, they change their position in relation to other objects by which they are surrounded. Obviously this could never happen in a still photograph. Thus, in the ordinary definition a still photograph is deemed a representation of the natural world that has been extracted during one moment of time, and, although the spectator may spend more than a moment of time in viewing the picture, it is this one isolated phase of the subject matter that occupies his attention.

Work done in this studio seems, however, to reveal that the basic property of the motion picture—movement—may be related in a deeper way than supposed to the aforesaid limitations of the still photograph. We trust we shall be able to show that the ordinary definition as stated above may be superseded—with results that are interesting and significant for further investigation. The purpose of our program was to gain a working technique for more effective still photography—pictures that would carry an impact of authentic meaning to the spectator. We conjectured that what this meaning was to be could be chosen beforehand, and then intermingled with the “likeness” of the person photographed in order to secure the desired effect in the completed work. For example, the meaning to be conveyed to the spectator might be “glamor,” or the gentleness of old age, or heroism, or simply good looks—or practically anything else in the repertoire of human emotional or intellectual behavior. We recognized that two factors would enter consistently into the making of the picture: one having to do with creating in an art way the meaning to be conveyed, and the other having to do with the handling of the sitter as the living nidus in which this meaning was to be embodied.

The present paper deals mostly with the latter factor, from the standpoint first of composition, and second of psychology. Composition and psychology are at the basis of all photography of this kind—that is, portraiture—and a consideration of the grander phase of art meaning can only properly follow an examination of the problems that arise in dealing effectively with the subject matter with which the art a priori is concerned.

In a study of underlying factors in art work, it is often advantageous



"What's This?"

Kenneth W. Williams

Kodak International Exhibit, 1938

to turn to the spectator for naive illumination: this because we recognize more and more the ancient Greek truth that the values of a work of art lie almost wholly in its effect upon the spectator. The Greeks believed that only its artists should generalize, its spectators never. They were the true devotees of the Universal bound closely in the Particular; and if we want to be effective in art work, we should join them in these devotions.

Thus in studying now this factor of movement in a picture we wish to know the significance to the spectator of the concept of movement. We pass beyond his mere sensory vision, because movement in this version means objects changing position in relation to one another. We arrive, in fact, at the spectator's mind—at his emotional and intellectual feelings concerning movement. In the broad psychological meaning, this is what we refer to as the concept.

Study in this direction has given us the belief that in the mind of the spectator movement, in concept, means fluidity: the deep sense of matter in flux as against matter static. Thus a line may have movement. And this is apart from the gross "action" taking place when, for example, a person in a picture walks across the scene: it is, we say, a mental residue from viewing such action. If we watch a certain kind of motion picture close-up we shall gain a vivid idea of this concept of fluidity. The girl or the man in the close-up will not be moving—no gross movement, that is,

where position in relation to surrounding props is changed—but nevertheless there is distinctly something in the close-up which enables us to know that the object is moving—or shall we say alive? We tacitly recognize movement.

This is fluidity, the concept of movement, in the mind. There seems to be something enjoyable in having it there when we view pictures, notably portraits. One of our assistants in the studio said it was the same kind of joy she felt when she had an opportunity of watching a person sleeping. This is an apt comparison, for, as will be shown, in such a case we are pure spectators of certain characteristics in which we are much interested. Let us notice that if a sleeping person we are watching makes a gross movement such as throwing his arm out or turning his head, it seems an interruption of what we have been watching. This is significant in the present study: that is, it is significant to note that gross movement interferes with that particular epicritic movement which puts the deep sense of fluidity in the mind.

The limitation of the still photograph, that actual movement cannot be represented in it, thus offers no obstacle to the representation of movement in concept—rather, technical endeavor in this direction is facilitated in still photography.

At this point we call to mind that it is a prime function of art to represent to the spectator the essential qualities of Nature.

A tree in foliage, a summer sunset, the surface aspect of a person—these are kindergarten representations.

The pattern-relation that things in the natural world bear to each other—this is a representation of intermediate difficulty.

The abstract suspension of things in time and space, the recreation of the deeper phases of life, of breath, of movement—these are problems for the advanced worker. Thus, for example, if in portraits of people the worker in still photography knows how to re-present living movement, the movement that is allied with the movement of biological growth and of emotional-intellectual nuance—then in his work he is re-presenting the essential quality of the objects selected: that is, human individuals. From capturing in the picture the flower-like vitality of a young nude, through the gamut of humanity to the rendering, say, of the sonorous maturity of some bearded patriarch, the work of the artist would bear no qualitative difference.

Our work as described hereafter has concerned itself with portraiture. It should be noted that a similar program can be undertaken in genre with no fundamental change in data; and genre offers a fertile field for application and extension of this data.

From textbooks of art and other sources we garner, at the beginning, several precepts for the representation of conceptual movement. These are stated as follows:

A portrait, like other pictures, consists of masses and the lines that enclose or connect them.

In general, the eye of the spectator tends to travel along lines and to come to rest upon masses.

The art-school precept is that the line of maximum movement is the diagonal. Then the line of lesser movement is the vertical and the line of



Figure 1



Figure 2

least movement the horizontal. An oft repeated simile states that if a man is standing, he is vertical; if he is falling, he is diagonal; and if he has fallen, he is horizontal. From this we perceive that these three types of line are available for use in representing movement.

As for masses, it is considered that small masses are less static than large ones; and that masses gain momentum as they approach the margin of the picture space.

Thus we postulate immediately that a picture containing diagonal lines, with a relatively small mass near the margin, would show more movement than a picture with horizontal lines and a larger mass at the mechanical center. See Fig 1 and 2.

Further, in many cases pictures are regarded as made up of areas, and if we analyze these, we find that a picture of equal areas is more static than one of unequal. This distinction in size may be a delicate one and yet can be detected by the spectator. The eye of the spectator tends to travel from dark areas to light; and over a shaded area more rapidly than an unshaded. See Fig. 3.

In conjunction with the above, it is to be noted that, bearing in mind the practices of composition, effects of movement may be secured through the framing of the print. Portions of the negative making for a static ensemble may be eliminated: for example, a mass may be brought nearer the margin of the picture space. Lines that were vertical in the scene photographed may be given a diagonal direction: this is frequently done in advertising pictures to "pep up" the composition, as they say.

A corollary of the framing of the print is giving the print the dimensions it should have. The first step in this direction is to decide whether



Figure 3

the picture is to be vertical or horizontal. But because paper is manufactured in 8x10 and 11x14, does not mean that all pictures can or should be fitted to that size. There is an intimate and important relation between the exact dimensions of a print (the relation between these dimensions) and the effectiveness of the picture it presents. Witness the painstaking theories of Dynamic Symmetry in this respect. We all have a delicate sense of the proportion of objects—in an art object, when we are dealing with esthetic perception, this sense may be highly developed.

From the square to the rectangle of, say, a proportion of 1:2, there are an indefinite number of intermediate sizes—each of which has its own innings in conjunction with the picture it presents in producing a unique effect upon the spectator. The square is static, the rectangle more dynamic.

We note that the framing and the trimming of the print may be important considerations in producing the effect of movement in a photograph.

At the basis of all the above considerations is the compositional idea of balance, which in turn refers to the kinesthetic impulses we feel for weighing the objects in a picture one against the other and being satisfied when some sort of counterbalancing system has been worked out among them. If the balancing system is subtle, so it is not at once apparent, we gain the impression that there is artistic movement in the picture.

There is another method of producing the effect of movement. When we consider it, we are moving up the scale of technique. It was used some years ago particularly by a group of artists among whom Pablo Picasso was the leader. Line in the picture is not drawn straight nor accurate, neither is it discontinuous in the manner of the line so often produced by artists. The Picasso line has, instead, a curious wavering characteristic,



Figure 4

and is unbroken practically throughout the picture, so that the spectator follows it as he might a thread through a labyrinth: in this case the labyrinth of living anatomy and other nuance. The reader is referred to the Picasso line drawings in art libraries for illustration of this type of work, which often is exceedingly effective.

The Picasso line may be used in photography. In "shadowless" portraiture, such a line, where found, may be accentuated. It is available for cautious use in backgrounds. We therefore list it in our inventory.

According to the above, we see that the concept of movement may be represented in a picture through use of various devices of composition.

There now arises for consideration an artistic practice which, lying beyond mere composition, takes into account the final position of the person in the picture as related to other positions he has assumed prior to the making of the picture. An example will make this clear. Suppose a painter wishes to convey the impression that his subject has just turned his head to look directly at the spectator. One of the ways in which he may do this is to have the subject look away and then turn his head in the manner desired directly toward him—that is, directly toward the ultimate spectator. The artist's faculties are then busy noting the anatomical changes that take place during the movement—the play of the sternocleidomastoid muscle in the neck, for example. Then too he sees the gathering impetus of the gaze as the face comes into view. When he paints he puts into his rendition of



Figure 5

the subject not only what he perceives in the final position, but also certain residual impressions gained while he was perceiving the preliminary positions. It will be remembered that we previously referred to the concept of movement in the mind as a sort of mental residue from the observation of gross movement. The artist paints this residue out of his mind into the picture.

For examples of great paintings created in some such manner as this, examine the "Laughing Cavalier" of Hals, and the "Shrimp Girl" of Hogarth.

It is evident that the above described practice may be carried over to photography. The question that arises is this: if, for example, a photographer directs a subject to look away from the camera and then back to it in a certain manner, is it possible for the camera to render the effect of the movement that is preliminary to exposure? If the camera can do this, then we have an important item to add to our inventory. We are talking now about true, careful portraiture—not about "freezing" the movement of the sitter with a fast exposure.

Fig. 4 shows a portrait made after the model had been directed to look away from the camera and back to it with a direct gaze. It will be noticed that in this picture any compositional elements have been omitted, to the end that the effect of the practice above described may be noted without interference.

The foregoing constitutes a resume of some of the technical knowledge



"St. Regis River"

Herbert Johnson

Kodak International Exhibit, 1938

available to photographers concerning the problem of representing movement in a still picture. There are various other practices in use by individual artists. For purposes of further study, Fig. 5 may be considered an experimental example (with printing control) of the combined use of the above described devices.

We should notice now that in the preceding methods the regimen in each case was tacitly imposed upon the subject from outside. This was recognized by us, and we looked forward with anticipation to application of the subjective method—material for which was on hand in some abundance. This second phase was undertaken after Fig. 5 had been selected from several similar photographs made to illustrate the objective method.

The photographer now, in addition to his other duties, assumes the role of psychologist. There is a moment when he realizes that a human individual is a responding mechanism—and as such has a physiological apparatus that is capable of differentiating in a thousand ways between the stimuli that impinge upon him: the response thus subtly differentiated being visible in his expression and the pose assumed by his postural musculature under impulse from the autonomic nervous system. Further, the photographer understands that when a person, even an experienced model, sits before the camera, he or she is in a highly suggestible state—subconsciously eager to receive.

(To be concluded in the July issue.)

For Smaller And Better Salons

Paul L. Anderson

BROADLY speaking, pictorial photographers may be classified in three groups:

- (1) The Romantic
- (2) The Esthetic-Literal
- (3) The Literal.

Let us consider these groups, with the aims and purposes of each.

The Romantic is—or perhaps I should say, was—represented in this country chiefly by the Photo Secession and by the Photo Pictorialists of Buffalo, two organizations which became extinct many years ago, though some of their former members are still active in photography. Not that these workers were the only Romantics, by any means, but they were the most conspicuous; nor that these groups included only pictorialists of this sort—it was merely that the general character of the groups in question was of this nature.

The word “romantic” connotes, to the average person, a peculiar weakness, a softness, a shirking of life’s realities. But this was far from true of such workers as Anne Brigman, George Seeley, Clarence White, Edward Steichen, or—in Europe—Robert Demachy and Hugo Henneberg. They evaded reality, to be sure, but they did so by injecting into their work a quality of imagination, a poetry, which lifted it far above the commonplace world, nor was there the slightest hint of weakness about their pictures, any more than there is in the work of that great modern Romantic Jose Ortiz Echague.

Technically, these Romantics generally, but by no means invariably, used soft definition, a compressed scale of gradation—usually favoring a low, rather than a high, key—sound composition of line and mass, a beautiful internal relationship of tones, and a printing medium which possessed inherent esthetic beauty; in other words, they demanded that each print must unfailingly be, in itself, beautiful. But the one thing which distinguished them from all other pictorial photographers was their unwavering insistence on the expression of an idea; to them photography, like prose

writing or like poetry, was wholly and entirely a medium for the beautiful and forceful expression of ideas. I do not mean that they confined themselves to genre. Indeed, except for some of Clarence White's earlier domestic pictures, there was very little of this class of work; Anne Brigman's photographs of nude figures posed outdoors in the high Sierras are such marvelous flights of poetic fancy that they cannot be classed as genre, and the same is true of George Seeley's draped figures, which seem often to have been posed in Fairyland. No, the idea underlying the photograph may have been the majesty of trees, the dazzling blaze of sunlight through mist, the mysterious quality of moonlight—as in Steichen's pictures of Rodin's Balzac—or any of a thousand others, but an idea there must be.

To originate an idea demands the re-combining of familiar mental images in such a manner as to produce a new and unfamiliar image, and this is probably the most difficult task which has ever been set the human mind; indeed, it is so difficult that only a small percentage of individuals can do it at all. But the "fatal facility of the camera" appealed to a great number of persons who loved beauty but who lacked the force of character to undergo the drudgery of learning to draw, and the ranks of pictorial photographers swelled rapidly when once the Photo Secessionists had proved that the camera could be used to produce indubitable works of art. Anyone can learn to see beauty, and the camera offered a relatively easy way to record it, so gradually there came into being the group that I have called the Esthetic-Literal.

This second group maintained, in practice though not in words, that any natural object, beautifully seen and beautifully photographed, makes a picture; and they discarded the Romantics' insistence on a fundamental idea, though still retaining the older group's sound composition, beautiful tonal relationships, and charm of print quality. In fact, in many cases they went considerably beyond the Romantics in these last three respects, giving us photographs which for exquisite objective charm have never been surpassed in any medium whatever. It is difficult to mention names in this group, for not many of these workers succeeded in establishing permanent reputations; the only ones that come to mind are those of Alfred Stieglitz, whose photographs of New York City prove him to have been an artist of rare sensitiveness and perception, though lacking the poetic imagination of the others whom I have mentioned; and Karl Struss, whose sensitiveness to the beauty of light was even greater than that of Stieglitz.

But even the slow and painstaking search for beauty proved too much of an effort for the increasing horde of photographers, and there developed the large group that I have called the Literal. These workers discard the need for a fundamental idea; they toss overboard the—to them—quaint and fantastic notion that a picture should be beautiful; they ignore, and sometimes even flatly deny, the need for composition; they insist on having everything sharply defined, therein belying their own claim to naturalness, for no human eye sees objects with anastigmatic sharpness; harried and driven by their own increasing numbers, by the rapid tempo of modern life, by the growing number of Salons, and by the fancied necessity for attracting attention to themselves, they forsake the delicacy of platinum, the virility of carbon, and the rich depth of gum for the speed of bromide paper. They refuse to study and to seek for beauty, but content themselves with

the unusual viewpoint, the bizarre expression, the everyday object fantastically seen. They expose their miniature films right and left; they feel it necessary to use to the full the possibilities of modern films and paper, so their prints are always full-scale and sometimes, to gain a still longer scale, are on the artistically offensive glossy bromide. But this sort of thing is so pitifully easy to do! From where I sit writing, I can see a dozen objects or arrangements which, by setting the camera high or low, or by changing the lighting a trifle, would make good Salon negatives. Nor is either the bird's-eye view or the worm's-eye view a novelty; twenty years ago Alvin Langdon Coburn photographed New York City with its lines converging downward, and twenty years before that, the first Kodak booklets warned against pointing the camera upward when photographing buildings; in those days, a building in the act of falling backward was not art. And in the mad scramble for distinction, the rush to attract attention, to catch the judges' eyes, to get their prints accepted, too often the present-day photographers descend not only to the bizarre, but even to such vulgarities as a still-life of a set of false teeth champing a banana, or even to downright obscenity.

Inevitably, the judging reflects this attitude of mind, for two reasons. First, even limiting the number of entries from any one exhibitor does not prevent a Salon from being swamped by applications for admission; in the New Jersey Salon of last autumn we limited the entries to photographers living in that small state, and the entries from any one exhibitor to four, yet the judges were confronted by four hundred prints from which to select. And second, it seldom happens that the judges themselves know anything of art; they are almost invariably photographers, with the educational limitations of the present-day photographer, who have been chosen for their task because they have been successful in getting a large number of prints into a large number of Salons. Therefore, the vast number of so-called pictorial photographers being utterly ignorant of artistic aims and of art principles, and the judges being equally ignorant, and both groups being rushed and hurried, what chance have we of seeing worthwhile works of art in our Salons? A man cannot evaluate and adjudicate between two works of art if he must do it in a scrambling rush, nor can he evaluate a work of art which is beyond his comprehension; I have seen very fine and thoughtful pictures, very beautiful and worthwhile photographs, rejected by a jury simply because the judges were no more able to understand them than the reader of a tabloid newspaper is able to appreciate a poem by Milton or a drama by Euripides. Too often the judge, if asked, can give no reason for accepting or rejecting a print beyond "I like it," or "I don't like it"—which is an admission that he knows nothing whatever of art principles, but is judging solely on the basis of personal preference. And I have even known judges to defend this manner of judging, to say that works of art cannot be evaluated by rule or by principle, but must be judged simply by whether the observer likes them or not—a statement which is equivalent to saying that if a listener prefers the latest swing tune to Beethoven's Fifth Symphony, then the former is the better music. Perhaps it is—to him; but not to the educated listener.

As for the frenzied haste with which photographic shows are judged, the recent International Salon of the Oval Table affords an excellent ex-



"Haircut In Morocco"

W. E. Barr

Kodak International Exhibit, 1938

ample of the utter absurdity to which this can be reduced. A rotating turntable was used, two men being constantly employed in placing prints on, and removing them from this merry-go-round, which was rotated at such a speed that each print was displayed to the judges for the space of five seconds. During this time each judge must make his decision, and record it by pressing one or the other of two buttons which were wired to electric lamps; there were ten judges, six acceptance lights including a print, whereas five or more rejection lights excluded it. And so great was the list of entries that even with this application of mass-production methods to art, the judging lasted something like five hours. But how much of a picture can a man see in five seconds? The beauty of photography, its superiority to any other graphic medium, lies in the delicacy with which it renders the gradations of light on surfaces. Can anything of this be seen in five seconds. Get some friend to show you a collection of his pictures, displaying each one for that length of time, and see if at the end, you have anything more than a confused and jumbled impression of the lot. Then imagine yourself keeping up that gait for five hours, and think how much serious judging you could do through the latter half of the period. As a matter of fact, it has been publicly stated by a well-known pictorialist who was present at the Oval Table judging, that after some hours one of the judges was so tired that he actually made no serious attempt to judge the prints, but merely held his "No" button down permanently. Judging of this sort has no place outside the walls of an asylum for imbeciles.

The question arises: How are we going to remedy this state of affairs? Well, first of all, do we want to remedy it? We want to show our pictures; that is admitted. Everyone likes to exhibit his work, and to have it admired; the wish is human. But do we want our photographs to be admired as serious works of art, or do we rest content to show them, in company with a thousand other futilities, as clever but superficial depictions of the passing show, or as fantastic bizarreries? If we are to take our photography seriously, if we are to have Salons in which the productions of the camera can properly vie with works in other graphic mediums, part of the task lies with the Salon committees, but the greater part with the exhibitors.

First of all, the Salons must limit themselves in size. A hundred prints is as many as a spectator can look at in a day with any satisfaction; five hundred or a thousand is sheer absurdity. So let the Salon committees place a definite small limit on the number of prints they will show. In the case of the New Jersey Salon this was done; the number of acceptances was limited to 86, that being the most that could be hung in one row—and under no circumstances should prints ever be shown in more than one row. I am fully aware that this is rank heresy; the Salon committees will cry: "People want to exhibit their prints; if we make it so difficult to get into our Salons, they won't send us their pictures." Perhaps. But I am enough of a reactionary to believe that if a thing is worth doing at all it is worth doing well; and I have enough confidence in humanity to believe that to the majority of us difficulty acts not as a discouragement but as a challenge. And finally, I feel most strongly that if our pictorial photographers lack the abdominal viscera—or, in the vernacular, the guts—to meet this challenge, then we are better off without the Salons; certainly the majority of photo-



"Measuring"

Werner Muszinski

Kodak International Exhibit, 1938

graphic exhibitions that I have seen within the past ten years represented no contribution to art, to thought, or to beauty. As a member of the committee in charge of the New Jersey Salon, I was present when the show was hung; as Salons go, it was a good show—far from contemptible by present-day standards. After the hanging, I wandered off to another wing of the museum, and for an hour or so refreshed myself with some paintings by Childe Hassam, Gari Melchers, Gardner Symons, John Carlson, Edward Redfield, Frederick Waugh, and other artists. On the way out, I met the Director of the museum, who enthusiastically inquired:

"Well, Mr. Anderson, what do you think of our photographic show?"

"Frankly," I answered, "I do not see how you can have the effrontery to hang such a collection under the same roof with those paintings."

But there is no need for this to be the case; given sufficiently high standards of acceptance, photographers will produce results which, though perhaps not fully rivalling these paintings, will at least very justly deserve to hang in the same building. It has been done in the past, and it can be done again.

As the next step let the Salons choose their judges from the ranks of men who have studied *art*, not *photographs*. Many persons contend that photographs should be judged by photographers. Well and good; I agree perfectly—if you can find photographers who have made a long and serious study of all forms of artistic expression, who are thoroughly familiar with the underlying principles of art, who know composition, who are sensitive to subtle tonal relationships, who know how nature actually looks and how far its values can properly be modified, who can recognize and appreciate unity, harmony, suggestion, mystery, and all the various factors which go to make up a work of art; and who, above all, are able to lay aside their personal likes and dislikes in order to judge solely in accordance with principles. I may be unduly pessimistic, but I doubt if there are six such photographers in the entire United States. And if the judging is to be done by artists rather than by photographers, then by all means let it be done by sculptors rather than by painters. Space is lacking to discuss the question here, but it can be shown that as a medium of expression, photography is much more closely allied to sculpture than it is to painting, so that of all artists the sculptor is most likely to appreciate the merits of a worthwhile photograph.

The other part of the remedy lies with the photographers themselves. Let them abandon factory-production methods, give over turning out exhibition prints in carload lots, and limit themselves to such a number of prints as they can make if they give to each one the thought and care and study that a painter or an etcher gives to his pictures. Even if, thus restricting himself, the photographer produces no more than one satisfactory print a year, he can comfort himself with the knowledge that one really good picture is in the end worth far more than an infinite number of mediocre ones; the good one will live, and can be enjoyed for years; the mediocre ones will eventually end where they should have gone in the first place—in the ash-can.

Then let photographers give over their bromide and chlorobromide papers and turn to the worthwhile mediums, platinum, carbon, gum, Fresson, bromoil. Of course this will slow down their production; it takes much

longer to make an enlarged negative and a Fresson print than it does to spin out a dozen bromides—but after all, is it necessary for an artist to behave like a squirrel in a wheel, and race madly to get nowhere? I recall seeing mention of a certain pictorial photographer who in one year had something over 370 prints exhibited in 70 salons. How much thought, how much originality, can we suppose to have gone into these prints? Well, if the average man has four original ideas a year he is doing well, so we may take it that each of these prints contained at best some $4/370$ ths of an idea, or, roughly, 1%. Referring again to the New Jersey Salon, after the judging was over, one of the judges, a man who has made a lifelong study of art, remarked:

"Not more than two or three of these prints show any signs at all of thought."

It was a just criticism—and a terrific condemnation of present-day photography.

In the world of craftsmanship, the characteristic difference between machine work and hand work is that the former produces a large quantity of mediocre products, whereas the latter gives us a small number of extremely high-class articles. In describing the interference refractometer which was built to his specifications, Professor A. A. Michelson says: "It was roughed out by machine to $1/10,000$ inch, and finished by hand to one-half the wave length of violet light." Roughed out to $1/10,000$ inch! But that is the difference between machine work and hand work. Unquestionably, machine work has its advantages, since it places within the reach of the average man comforts and even luxuries which would be denied him were they slowly and expensively made by hand; but it has no place in the world of art; mass production methods cannot deal with thought.

Therefore, if the camera is to vindicate itself as a medium of artistic expression, our photographers must abandon the idea of mass production; they must give over the notion of exhibiting 370 prints per annum; and they must study long and deeply the principles of artistic expression—for such principles do exist, in spite of the wordy claims of some modern painters and writers, and they must be known and followed if our photographs are to be worth making and worth seeing.

Let our photographers study the works of the great masters of sculpture and painting, not to emulate or to imitate them, but to learn from them the things which can be used in photography. Let them forget all about turning out a certain number of prints, and work solely with a view to the expression of worthy ideas, or, if that is beyond them, at least in the spirit of the Esthetic-Literals, who demand the ultimate beauty in each print.

It may be that the photographers of this country do not wish to do this, that they are not willing to devote this amount of study and thought to their work. Very well. In that case let them drop the words "art," "picture," and "pictorial" from their vocabularies, and say quite frankly:

"We are not interested in art; we are not interested in making pictures that have any permanent value; the camera, to us, is not medium of expression, but a toy. We have no ideas to express, nor will we make the effort to capture any; nor have we any interest in beauty. All that we wish to do is to turn out thousands of ephemeral trivialities, to have these worthless photographs seen by as many persons as may care to waste a day in

glancing indifferently at them, to collect as many stickers as possible on the backs of the mounts, and in the end consign this trash to its proper and well-deserved oblivion." That creed would at least be honest.

I do not, however, believe that it will be necessary to proceed to this extremity. There are two or three Salons that have shown an inclination to judge thoughtfully, to select intelligently; and there are a very few photographers who have shown that they are interested in beauty and are willing to study and work in order to attain it. These may in the end prove to be "the little leaven that leaveneth the lump;" the contagion may spread; and photographers may come to realize that in the camera they have a medium which is capable of as worthy and as full an expression as the painter's brush, the etcher's needle, or the sculptor's chisel. When that day comes, when the photographer is willing to study his art as do the painter and the sculptor, then we shall have Salons which will be a delight to the eye and a refreshment to the spirit. I may be wrong; that day may never come; but at least I continue to look for it. And I continue to cherish a tiny spark of hope that some day—perhaps not in my lifetime, but some day—we shall in this country lay aside the foolish notion that, in art, quantity is of importance, and we shall have fewer, and smaller, and better Salons.

Double Image Development

Karl A. Baumgaertel

The reader should understand that the formula given in this article is NOT put forward as a fine grain developer.—Ed.

Two images on one negative, no not the kind you get when you forget to wind the film but two similar images in exact register, one a silver image and the other a dye image, either one alone capable of giving you a print, the two combined giving you the best printing negative possible to make.

Something new? No, to the contrary, quite old but not commonly understood even by old timers and not at all known to most of the younger generation of photographers whose chief experience has been with the newer so called fine grain developers, most of them requiring longer ex-



"The Quest"

Karl A. Baumgaertel

posure to secure proper density and in many cases requiring special contrast papers to obtain even fair quality prints.

Experienced photographers know that the printing quality of a negative cannot always be judged by its appearance as some developers, for instance Amidol, one of the finest bromide print developers, when used as a negative developer will give negatives that are a real pleasure to behold but that are difficult to secure a good print from, while other developers, like our old friend Pyro, will give negatives not so pleasing to one's esthetic sense but capable of giving really fine prints.

A number of years ago the Eastman Kodak Company's laboratories (see Kodakery, February 1926) in investigating Pyro's ability to give good prints from even poor looking negatives discovered that a peculiarity of Pyro was that not only did it develop the ordinary silver image but that it also formed a dye or stain image, even when no apparent pyro stain was visible. This dye image varying in density in direct proportion to the density of the silver image thus acting as an intensifier and making it possible to secure from a pyro developed negative a print of a quality that cannot be obtained from any negative, of similar visual density, developed with a developer not having Pyro's peculiar ability to form a stain image.

Several other developers besides Pyro have this same ability to build up double images, Rubinol a Pyro derivative having this ability in about the same degree as Pyro, Glycin has it in a slightly lesser degree but is

quite slow and Adurol in a stil lesser degree than Glycin but having the advantage of being faster and less sensitive to low temperatures than Glycin. There are probably other developers having this ability to form two images but they are not known to the writer at the present time.

Glycin being too slow for the average worker and Adurol being less efficient as a double image developer, Pyro and Rubinol appear to be the best choice in this type of developer, Pyro on account of its low price for the worker using the larger negative sizes, $3\frac{1}{4}$ " by $4\frac{1}{4}$ " and up and Rubinol, on account of its ability to give fine grain results, for the minicam and small film size worker. Almost any published formula for Pyro or Rubinol can be used, these two developers being interchangeable in identical quantities. The writer has found the following formula, an adaption of the Eastman Pyro-Elon formula most satisfactory combining as it does the advantages outlined above together with the ability of requiring a minimum of exposure to secure the proper negative density.

	TRAY	TANK
Water	10 Oz.	40 Oz.
Potassium Metabisulphite	5 Grains	10 Grains
Metol, Elon or Pictol	15 Grains	15 Grains
Pyro or Rubinol	25 Grains	25 Grains
Potassium Bromide	5 Grains	$7\frac{1}{2}$ Grains
Sodium Sulphite Anhydrous	125 Grains	125 Grains
Sodium Carbonate Monohydrated	60 Grains	60 Grains

Dissolve in the order given, for tray development the time is 5 minutes at 65° , tank about 20 minutes at 65° the time for tank development varying slightly depending upon the type of tank and the amount of agitation. Expose for the shadows to get full detail and develop to get a thin, apparently soft, negative. The exposure will take care of the shadow details and the slight undevelopment necessary to keep the negative thin will keep the highlights and sky portions from blocking up, the dye image will assure proper contrast although the negative may appear too soft to those accustomed to the action of other developers. With this method filters are usually not necessary to preserve cloud details.

A batch of this developer will develop about a dozen cut films up to 4 x 5 in size or two or three rolls of film. In using a tank increase the developing time about two minutes for the second roll and five minutes for the third roll. The developer must be freshly mixed and cannot be stored away for use at another time, stock solutions however can be made up in the usual manner for Pyro developers the Metol being combined with the Pyro solution.

It is not necessary to have a visible dye image nor does a pronounced stain offer any advantages. The density of the dye image and the amount of stain can be controlled by the amount of Sodium Sulphite used, more sulphite gives a weaker dye image and less stain, less sulphite gives a heavier dye image only to a certain degree, the stain rapidly becoming more noticeable, the increased stain prolonging the printing time without offering any additional advantage. A properly developed negative will show only a faintly visible stain and will be warm black in color.

To those who like to experiment and actually see how much of a dye



"A Champion Serves"

Karl A. Baumgaertel

image they are securing, it is suggested that three identical negatives be exposed and developed. The first can be kept as is, after developing, fixing and washing, the other two can be given the following after treatment after development, fixing and thoroughly washing, one to show the silver image only, after removing the dye image and the other to show the dye image only, after removing the silver image.

To remove the stain image, without appreciably affecting the silver, use a permanganate-sulphuric acid reducer as follows:

SOLUTION A

Water 1 Oz.
Permanganate of Potash 24 Grains

SOLUTION B

Water 1 Oz.
Sulphuric Acid C.P. 24 Minims or drops.

For use mix 1 dram of solution A and 2 drams of solution B. The action of the reducer can be stopped by rinsing the negative in water, then placing it in a fresh acid fixing bath, as soon as the color of the image has changed from the former warm black color to black after which it should be well washed in water.

To remove the silver image from the third negative, to leave the dye image only, use a very strong Farmer's reducer made up as follows:

SOLUTION A

Water 4 Oz.
Hypo $\frac{1}{2}$ Oz.

SOLUTION B

Red Prussiate of Potash 1 Dram
Water 1 Oz.

Mix all of Solution A with all of Solution B and use at once. This will dissolve the silver image and leave a dye image which can best be examined by placing the film on a sheet of plain white paper and viewing it by reflected light. After using the reducer wash the film thoroughly.

If the several processes have been carried out properly all three negatives should be capable of giving a print, the first, the double image negative, the finest possible print one can secure, the second, the silver image negative only, a passable print and the third negative, the dye image only a rather poor print but a print nevertheless.

Photographic workers accustomed to making prints from heavier negatives should guard against over-exposure and under development. The printing time must be such as to give a properly developed print in the time recommended by the paper manufacturer, usually about two minutes, as over-exposed and under developed prints will tend to flatness.

What Is Your Photographic I. Q. ?

E. W. Lentz

IN the spirit of fun, and as a check up on your knowledge of photography, give yourself the following five minute quiz. The questions set forth cover a general field of photography; if your score is 90 % or better it is certain that your photographic education is far above average. A score of 80 % is considered good; 70 % is fair. On a score of 60 % or less you should draw your own conclusions.

All ten questions are followed with a choice of four answers; all you have to do is check the correct one. Deduct ten points from a score of 100 % for each question you fail to answer correctly. Correct answers will be found on page 291.

Here is question number one:

1. Who is credited with making the first photographs?

- ☐ Johann Heinrich Schulze
- ☐ Joseph Nicéphore Niépce
- ☒ Louis Jacques Mande Daguerre
- ☐ George Eastman.

2. When a photographer refers to "hypo" which one of the following chemicals does he actually mean?

- ☐ Pyrogallol
- ☒ Sodium Thiosulphate
- ☐ Ammonium Sulphocyanide
- ☐ Sodium Hyposulphite.

3. A lens stop marked f:11 corresponds to which one of the following stops marked in the "Uniform System"?

- ☐ U. S. 4
- ☒ U. S. 8
- ☐ U. S. 16
- ☐ U. S. 32.

4. Which one of the following chemicals is not an accelerator?

- ☒ Glycerin
- ☐ Sodium Carbonate
- ☐ Potassium Carbonate
- ☐ Potassium Bromide

5. How would a film rated Weston 16 compare with a film rated Scheiner °16?

- ☐ Its exposure rating is slower
- ☐ Its exposure rating is the same
- ☒ Its exposure rating is faster
- ☐ The ratings are not comparable.

6. Three of the four names in the following group are well known in photographic circles. Check the one being inconsistent.

- ☐ William Mortensen
- ☐ Dr. Paul Wolff
- ☐ Harry Champlin
- ☒ Sigmund Freud.

7. The density scale of a negative is often referred to as being approximately 1 to 150; the density scale of a paper print, however, is considered to be:

- ☐ 1 to 300
- ☐ 1 to 150
- ☐ 1 to 100
- ☒ 1 to 50.

8. An exposure made at f:16 would require how many more times exposure than one made at f:5.6?

- ☐ Three times
- ☒ Five times
- ☐ Eight times
- ☐ Twelve times.

9. A 50 mm. lens on a precision miniature camera of today will give an approximate angle of view to correspond to which one of the following?

- ☐ 90 degrees
- ☒ 45 degrees
- ☐ 28 degrees
- ☐ 18 degrees.

10. If you were required to photograph a mahogany desk and it was necessary to reveal as much grain as possible, using panchromatic film, which one of the following filters would you use?

- ☒ Red filter
- ☐ Green filter
- ☐ Blue filter
- ☐ Violet filter.

What score did you make? Would you like these quizzes to continue in future issues?—ED.

Cinema Section

Edited by
William A. Palmer

The Quest For Realism

THE moving picture is a realistic art and development throughout its history has all gone to make the impression of realism more vivid. When sound was added ten years ago, a great step was made, and now with color being used more and more, the approach to realism is nearer. With motion, color, and sound we seem to lack but one more quality—depth.

The Third Dimension

Every so often in the newspapers, usually in a Sunday supplement, there will appear an article heralding another revolution in the motion picture industry. The article will describe a new and ingenious invention which will give the third dimension to movies. The device is usually some complicated looking gadget which can be fitted in front of the regular motion picture camera and with very little additional cost of production, give marvelous stereoscopic movies.

Any motion picture engineer can recall many such gadgets which have been publicized and, incidentally, in which many hundreds of people have invested great sums of money—to be lost because of some “minor” faults were not solved before the money ran out and the company failed.

Practically all of these gadgets have attempted a short cut to the presentation of three dimensional movies by utilizing some trick of visual phenomena to fool the eye into the impression of depth. The simplest and most effective of these, is by the use of a device to move the camera slowly in a direction at right angles to the camera's line of view. This is the same sort of scene that one gets when shooting out of the side of a moving boat, auto, or train. Often amateur movie makers who have taken such scenes are startled by the impression of depth to the scene. It is a good trick to use from time to time, if the conveyance upon which the camera is placed does not move too fast, or if the motion of the camera carrier is made less apparent by operating the camera at slow motion speed. But naturally a laterally moving camera cannot be used for all scenes, although some have tried the idea for photoplay production by having the camera oscillate back and forth on a semi-circular track, keeping the lens at all times trained on the subject. This idea gives the impression of depth all right, but foreground objects are always in unpleasant motion, making one of the “minor” faults that are never overcome.

Still other ideas for third dimension effects have used revolving and oscillating mirrors and prisms in front of the camera to present a series of views from different angles in rapid succession and thereby build up an impression of

depth. One particularly fantastic scheme involved the projection of pictures from three angles on a column of smoke which would act as the screen. These ideas have met with uniform failure—except for their success sometimes in snaring investors into an ill-fated company.

Although some day there may be evolved an optical trick that really works, most engineers and physicists agree that there is no short cut to true stereoscopic presentation. The requirements for third dimension vision are well known and have been used for years in still photography. The same principles applied to movies will give the same success. The requirements are: One picture (or series of pictures in the case of movies) must be taken from a viewpoint that the right eye might have, while another picture or series of pictures is taken from a position some $2\frac{1}{2}$ inches to the left, corresponding to the position of the left eye. These two series of pictures are then processed and presented in such a way that the right eye sees only the picture that was taken from the right position and the left eye sees only the picture of the left position. When such conditions are achieved we get true stereoscopic vision.

The main problem in third dimensional movies is that no *simple* means has been found to separate the two sets of pictures (so that the right eye does not see the left eye's picture and vice versa) without some kind of viewing glass or pair of spectacles over the eyes of each person in the audience.

Until recently these viewing devices or spectacles have been either of expensive and complicated prism construction or have made use of color filters to separate the two pictures. The latter device is familiar to most theatergoers since it has been used for short novelty films, the last of which were a series of Pete Smith shorts called Audioscopes. These were very entertaining, but obviously the color filter idea could not be used with regular photoplays, because not only would natural color films be impossible, but the use of different colors for the two eyes would give rise to serious eye fatigue when viewing a long picture.

Polaroid Gives Depth

Now, due to the development of a thin inexpensive glass which polarizes light (Polaroid, Polascreens, etc.) it is possible to present technically perfect third dimensional movies in color, providing that the individual observers are willing to use special glasses.

There is no mystery about the system and even an amateur could make his own movies in three dimensions as, indeed, one ambitious amateur has done. Here is the way it is accomplished:

Two cameras are placed side by side with the two lenses separated by the eye distance. The two mechanisms are mechanically connected so that they run in perfect synchronism. Either color or black and white film may be used and the pictures are photographed and processed in the usual way. Then when it comes to projection, two projectors are used. The mechanisms of the projectors are also interconnected, as were the cameras, and both focussed on the same screen. Polarizing filters are placed over each projector lens in such a way that the polarizing elements are at right angles to each other. That is, if the polarizing filter on one projector is placed with the elements vertical, the filter on the other projector is placed with the elements horizontal.

A special metallic screen must be used (so that the reflected light will remain polarized) and the screen is viewed by the persons in the audience with glasses, the lenses of which are also polarizing filters. The filters in the glasses must

be set to correspond with the filters on the projectors so the two eyes see their proper pictures.

That's all there is to it in principle—two films for the camera work, two films on projection, and polarizing filters to separate the pictures for the two eyes. Of course, if the system is used commercially, the two separate films would no doubt be combined into a single film of perhaps double the width of the present film, or two sets of pictures might be made in smaller size on the same standard films that we have now.

Will Theaters Have Third Dimension Soon?

Granted, then, that technically perfect stereoscopic movies are now possible in either black and white or color, what are the chances of the system coming into general use in theatrical presentations?

Our guess is that this will not happen for a long time if ever, because of a number of disadvantages that would seem to overpower the advantages of greater realism. In the first place, looking at it from the standpoint of the producers, the cost of production would go up very steeply because of the extra set of pictures necessary. Not only would the cost of film stock double up, but the cost of processing and labor in cutting and assembling the picture would be increased.

More important to the producer than the added cost of film and equipment would be the difficulty of using most of the special "process" shots that are used extensively in the present Hollywood product. In practically all present day photoplay production, some use is made of the projected background process in which studio photographed foreground scenes are combined with backgrounds previously photographed. This results in untold economies by making it possible to photograph the principal characters apparently at far away places when actually they have never left the Hollywood lot. So extensive is the use of this type of photography that it is sometimes used in as many as 75% of the scenes of a photoplay.

In other types of trick photography and even in set construction the addition of the third dimension would give away certain common stunts of "faking" realism as now practiced.

From the standpoint of the theater owner there would be the difficulty and expense of installing new and more complicated equipment, as well as the nuisance and expense of providing special viewing glasses for each member of the audience. It is conceivable that many patrons would buy their own glasses to view the movies, but this could not be expected of everyone, and even if such was the case, the average individual could be expected to mislay his glasses or forget to bring them along to the show. So it would fall to the lot of the theater management to provide at least some of the glasses, to collect them after the performance, and to clean and sterilize them before the next use.

All of these obstacles are not insurmountable by any means, for the added cost of production and equipment for sound was just as much of a problem ten years ago. The question of providing glasses is not inconceivable when one remembers that we use the same principle in public restaurants where the customer is not expected to bring his own dishes and table ware. But in comparing the advantage of the increased realism of the third dimension with the cost involved, it seems as though the pictures are doomed to stay in their present flat form.

Stereophonic Sound

Along the same lines of adding realism to motion pictures, is a new development in sound recording which is analogous to the third dimension in pictures.

Most of us are hardly aware of the fact, but nevertheless it is true that we hear as well as see in three dimensions. The fact that we have two ears located a short distance apart enables us to locate the direction from which a sound comes as well as the approximate distance of the sound from us.

These same principles of dual pick-up of sound has been worked out for talking pictures and is a practical achievement in the experimental laboratory. The "stereophonic" sound recording as it is called, consists of two "channels" fed by two microphones placed at either side of the subject. Two separate sound tracks are recorded side by side on the same film.

In the theater, two photo-electric cells in the projector pick up the sound from the two sound tracks, amplify it through two separate amplifiers and deliver it to two separate sets of loudspeakers at the screen. The loudspeakers are set at either side of the screen, each group reproducing the sound picked up by the microphone on the same side of the scene when the picture was made. With this arrangement, it is possible for the voice of an actor apparently to follow his image from one side of the screen to the other. This not only gives a better impression of reality by making the sound appear to come more definitely from the mouths of the actors, but there also seems to be a greater fidelity of reproduction by the system being able to "sort out" sounds from different directions, allowing the attention to concentrate on the most important sound.

A simple demonstration of the added clarity of dual hearing can be made by anyone by closing up one ear while listening to someone talk in a location with a good deal of interfering noise. While one ear is shut off, it is difficult to understand the voice among the noise, but when the two ears are used, there is no trouble concentrating on the desired sound and disregarding the interfering noise.

Here again is an experimentally feasible improvement in motion pictures and one is prompted to ask: Are we going to have stereophonic reproduction in theaters soon?

Our opinion is that there is a definite possibility of the adoption of this principle, but it will be more because of the greater realism and fidelity of the sound recording than because of the improved sense of the direction from which the sound comes. The greatest obstacle to the adoption of stereophonic sound is the scarcity of space on the present standard 35mm film for the dual sound track. When sound was put on the 35mm film, the dimensions were not changed, but the picture was narrowed down and about an eighth of an inch was reserved for the sound. This width is none too great for an ordinary sound track and now both stereophonic sound recording and another development called "push-pull" recording threaten to subdivide the little eighth inch strip. Really, to make the most perfect sound reproduction of which modern engineering is capable requires the combination of "push-pull" and stereophonic recording and that requires not one but four sound tracks! A possible solution to this problem of finding room on the film for four sound tracks and still have enough space for a picture would be through the use of different color sound tracks for the two channels of the stereophonic reproducing and making each of the two tracks required for "push-pull" just half the width of the ordinary one.



"Im Nebel"

Peter Kocjancic
Ljubljana, Jugoslavia

Advanced Medal Print

■ We think that this is an exceptionally beautiful landscape photograph. Made so by a superlative rendering of an atmospheric effect and by a composition which was carefully conceived to fit the material at hand. Far too many photographers, we believe, have preconceived patterns of compositions which they carry about in their minds. Their efforts are directed toward fitting their subject matter into these preconceived patterns. The correct procedure, of course, is to derive the composition from the implications of the subject matter. That is what has been done here. Notice that the result is an original treatment of the material, considerably different from what most photographers would have produced. The average photographer confronted with this subject would have adopted a camera position considerably further to the left, placing the first tree well to the right in the picture space. Unless he had learned to "feel" his composition on the spot he would probably have instantly discarded any thought of placing this tree in the center as has been done here. Our imagined camera position would place the opening in the sky behind the large tree, establishing a strong accent point there, because of greatest contrast. This would surely detract from the strength of the atmospheric effect as a whole, and from the effectiveness of the tree trunks as dark accent points. We might have a good picture, but not as good a one as is shown here, for our imagined composition would not fit the subject matter nearly so well as does the present arrangement. This subject matter then, "implies" a maximum effectiveness for the tree and a superb rendering of the atmospheric effect. We think that the present composition conforms to those implications most successfully.

Data: 4 x 4 cm. Rolleiflex; 1/8 sec. on E. K. Panatomic film, with Duto diffusion screen; 6 3/8 x 6 1/2" print on Gevaert glossy.

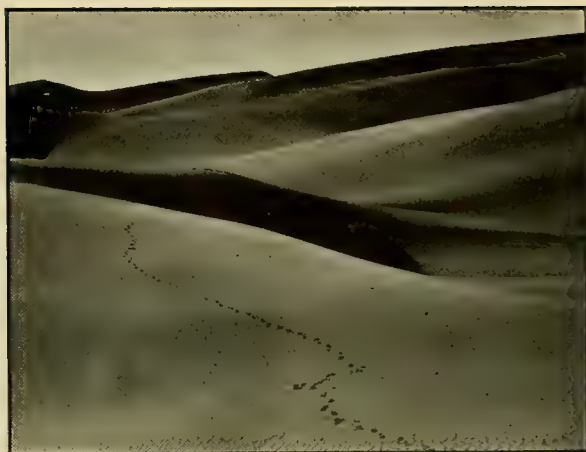
Second Award

Advanced Class

■ This is a lovely sand dune picture. We think that the most interesting point for discussion concerns the relation of the foreground area to the material beyond. Here again we are concerned with the "implications of the material." This picture is effective because of the interesting movement of line. The material beyond the foreground swings the eye from one side of the print to the other and back again as the eye moves into the picture, until it eventually travels over the horizon. This movement is the most important element in the composition. The

foreground area consists of texture plus the line set up by the foot prints. It seems clear that both of these elements function as introductory material, offering the eye an easy and pleasant entrance into the picture. But notice that our introductory material occupies almost one half of the picture space, and that the line of foot prints is unnecessarily complicated at its beginning. It therefore seems to us that too much emphasis is placed on the introductory material, and we would trim away at least one-third of the foreground area, adding some sky to re-establish print proportions.

Data: 4 x 5" Graflex, Series D; 7" Zeiss Tessar; E. K. S. S. Pan., in D-76; 11 x 14" print on Defender Velour Black B, in D-72, sepia toned.



"The Wanderers"

R. F. McGraw
Pasadena, Calif.

Third Award

Advanced Class

■ From this picture we can quickly see that a small strongly contrasted spot on a large fairly uniform expanse has just as much power of dominance in a picture as a very large spot. We can see however that the spot must be carefully placed, especially with relation to any variation in the background material. In this case the pathway of light on the water, determines that placing. It is quite evident that the best possible position for the figures is to one side of the pathway of light so that they are in the act of entering this accent area. Notice that the brilliance of the light on the water is diminished toward the top of the print, and that this toning down helps greatly to keep the eye within the confines of the picture space.

Data: E. K. Panatomic film; 10 x 12" bromide print.



"Bath"

Vlado Cizelj
Zagreb, Jugoslavia



"Beverly"

*Axel Bahnsen
Yellow Springs, Ohio*

key. The necessary conditions are these: The subject matter must be high in key in itself; the lighting must be well balanced. At this point it would be best for the beginner to forget all about high key and simply remind himself that he is working for maximum detail and gradation in the highlight areas of a short scale subject. This means a minimum of exposure and full development of the negative. It is unfortunate that the tufts of hair were permitted to show at the left of the face. We suspect that Mr. Bahnsen felt that these would help to preserve the outline of the cheek against the light background. They do that of course but are unnecessary since there is sufficient differentiation of tone between face and background. As things are they constitute two spots of considerable power that detract from the unity of high key effect. In high key work it is important to keep your dark accent points close together and strongly tied into each other.

Data: 10 x 13" bromide print.



"Reverie"

*R. B. Stewart
Yellow Springs, Ohio*

to form a base for the picture.

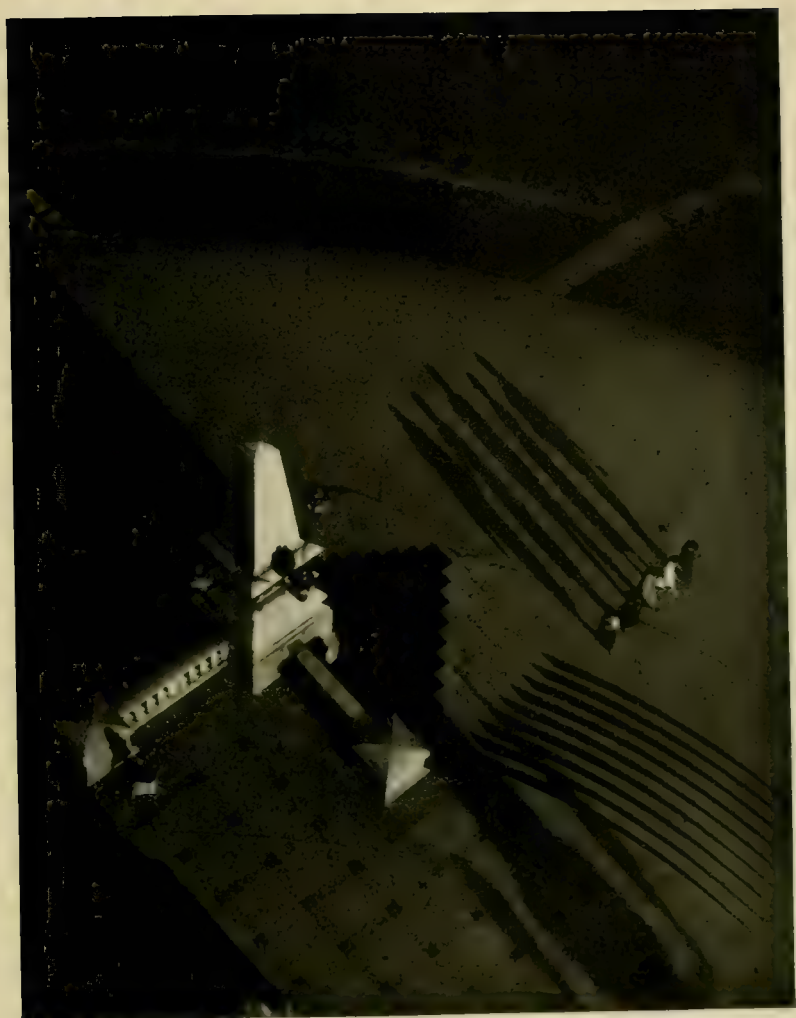
Data: 4 x 5" Graflex Series B; Kodak Anastigmat F:4.5; 1/20th sec. at F:4.5 on Orthochromatic film; 11 x 14" print of E. K. Opal G, in D-72.

Fourth Award Advanced Class

■ There is a charming delicacy about high key work that attracts all of us, and this particular example contains a lovely subject and is well executed. We see so many prints in which high key effects have been attempted by piling on a lot of excess light and exposing fully in order to get a dense negative, that we feel called upon to repeat what has been said before in these pages. The above procedure is wrong and will only result in wishy-washy prints devoid of all delicate gradation in the highlights. An unusually dense negative is not required for high

Fifth Award Advanced Class

■ Mr. Stewart shows a very appealing little face with remarkably expressive eyes. The lighting is fine, revealing a nice roundness in the face, the spacing is good, and the technique in general quite satisfactory. Our one disappointment with the picture has to do with the arms which are trimmed at a rather awkward point and weaken the unity of the composition by running out of the picture at the base. We don't mean to say that they carry the eye out of the picture, but rather that they give the picture an unfinished appearance and an unsecure base in support of the head. With this sort of pose the arms are always a difficult problem. As a general thing it is usually better to either show more of the arms so that the inner contour of the elbows will turn the eye back into the picture, or to trim very drastically right up to the base of the hands. It is easier to work out a satisfactory composition if the chin is rested on one hand with the other forearm arranged horizontally



"The Last Rays"

Jack Cannon, San Francisco
Amateur Medal Print

■ The fact that Mr. Cannon has seen and recorded this extremely interesting and rather complicated pattern shows that he has a well developed understanding of design. Our jury got into a delightful argument about this picture. We wish we could put it all down here, but lack of space forces us to boil it down considerably. Admittedly one's first reaction to the picture, after the first flush of interest has turned toward analysis, is that it is too heavy at the top and should be trimmed slightly. When we try that we begin to appreciate the function of the two curves in the upper part of the print, and discover that there is no completely satisfying point at which to trim "only a little." If we are going to trim we must cut down to a point just above the upper tip of the shadows cast by the figures thus eliminating the curves altogether and changing our picture to a horizontal format. This is a complete composition but is perhaps slightly less interesting than the present presentation. We then come to the realization that it is not spacial relationships that bother but tone values. The large mass of dark at the top is a bit too heavy. In fact the whole print is a trifle darker than it needs to be. If the tonal value of this upper portion could be lightened without causing the detail shown there to become too prominent we should have about what we are after. As things are we prefer the picture trimmed to a horizontal format as indicated, but feel that a somewhat better thing could be made of the whole with careful printing control.

Data: 11 x 14" bromide print.



"New York Garden"
Paul Kozak, Jr.
So. Euclid, Ohio

Second Award

Amateur Class

■ Here is a splendid composition made up from extremely ordinary subject matter. It is interesting to note that the major factors in the arrangement are completely static. The camera position is at right angles to the building, the two windows balance each other exactly, and all horizontal and vertical lines are parallel to the edges of the print. Observe how deftly the feeling of movement is introduced into the picture. The diagonal shadows on the wall and the directional force of the figures in the foreground completely overcome the inertia of the rest of the material. The diagonal shadows alone would go far in this direction if the figures were not shown. The importance of these elements which contribute movement to the picture become quite clear when we imagine how dull the arrangement would be without them.

Data: Contax; 50 mm. Zeiss Tessar; 1/50th sec. at F:6.3; super pan. film in Edwal developer; K-2 filter; 11 x 14" print on E. K. Opal, in Amidol.

Third Award

Amateur Class



"Surf Fishing"
Clyde Eddy
San Francisco, Calif.

■ The action, both of the man and of the water is splendidly caught in this very effective picture. In contrast to the static framework observed in the previous picture, every line in this print is a line of movement and it is only the masses of tone which contribute stability to the picture. In the case of both pictures things are as they should be, that is the principal structural elements are in keeping with the idea or theme of the picture. Observe how pleasantly varied are the sizes and shapes of the three principal masses, and notice how effective it is to place the figure on the line of transition from one tonal mass to another. We might also call attention to the fact that, although he is offered two tempting opportunities to do so, Mr. Eddy does not terminate either of the two main diagonals exactly in the corners of the print. Instead he misses the corners by just a little bit, and thus avoids presenting his composition in too obvious fashion. It's fine to have your diagonals

shoot towards the corners, but they should not score a bull's-eye.

Data: 3¼" x 4¼" Speed Graphic; 11¼" Schneider Xenar; Agfa Isopan film in DK-76, no filter; 11 x 14" print on E. K. Vitava Projection, in Amidol.

Fourth Award
Amateur Class

This particular face is well selected to carry out the idea suggested in the title. The lighting is well executed and the "direct" pose seems to be a happy choice in this instance. There are, however, two small things which slightly mar the perfection of the whole. Notice that the distance from the chin to the base of the print and from the shadow line on the forehead to the top of the print is practically the same. It is this situation we think which gives the impression that the head is a bit low in the picture space and perhaps a little crowded as well. Presenting the picture with twice as much space below the chin as is now shown would remedy this matter. The background which shows only along the left side, rather calls attention to itself because of its stripe-like shape and its isolation. This tendency could have been reduced if the draperies about the head had been broadened out at the base to interrupt the background area before it reaches the base of the print. Such an adjustment would also contribute a firmer base in support of the head.

Data: 11 x 14" bromide print.



"Peasant"
Jozsef Sikoczki
Cleveland, Ohio

Fifth Award
Amateur Class

No landscape photographer could ask for a more beautiful quality of light, or for light more ideally directed for picture making than that which is shown in this print. Observe that the lighting and the subject matter both demand that emphasis be placed upon the trees in their relation to the lovely illumination on the hillside. Consequently it is regrettable that so much of the flatly lighted foreground has been included. The picture is improved if we trim away the foreground almost up to the foot of the nearest tree, but to get the most out of this subject the trees at the left should be shown to their full height. We can do that and still maintain the height of the hill in relation to the trees by adopting a more distant viewpoint and using a longer focal length lens. We certainly think that this subject is well worth doing over more than once if necessary in order to get the maximum picture value out of this lovely material.



"Evening In November"
Charles J. Beise
Durango, Colo.

Data: Eastman 620 Series II Special; 1/25th sec. at F:8 on S. S. Pan with K-2 filter; 4 P. M. in November; developed in DK-50; 8 x 10" print on E. K. Opal P, gold toned.

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Peter Kocjancic, for the Fotoklub Ljubljana; Vlado Cizelj, for the Fotoklub Zagreb; R. F. McGraw, for the Pack Rats; Axel Bahnsen and R. B. Stewart, for the Yellow Springs Camera Club.

The following won prizes for their clubs in the Amateur Class: Jack Cannon, for the California Camera Club; Paul Kozak, Jr., and Jozsef Sikoczki, for the Cleveland Photographic Society; and Clyde Eddy, for the Photographic Society of San Francisco.

The following prize winner has no club affiliation: Charles J. Beise.

Contributing Clubs

California Camera Club (San Francisco)	Nutmeg Camera Club (Manchester, Conn.)
Camera Clique of St. Louis (Mo.)	Oklahoma Camera Club (Oklahoma City, Okla.)
Camera Club of Richmond (Va.)	Olean Miniature Camera Club (N. Y.)
Camera Pictorialists of Columbus (Ohio)	Pack Rats (Pasadena, Calif.)
Cleveland Photographic Society (Ohio)	Photographic Society of San Francisco
Florida Camera Club (Tampa, Fla.)	Riverside Pictorialists (Calif.)
Fotoklub Ljubljana (Yugoslavia)	San Jose Camera Club (Calif.)
Fotoklub Zagreb (Yugoslavia)	Seattle Photographic Society (Wash.)
Japanese Camera Club (San Francisco)	Sierra Camera Club (Calif.)
Larchmont Camera Guild (N. Y.)	Syracuse Camera Club (N. Y.)
Nanticoke Camera Club (Pa.)	Taft Camera Club (Calif.)
	Yellow Springs Camera Club (Ohio)

STANDING OF CLUBS

Large Clubs Advanced Class		Small Clubs Advanced Class	
Fotoklub Zagreb	17	The Pack Rats.....	20
Fotoklub Ljubljana	15	Denver Lensmen.....	14
Fort Dearborn Camera Club.....	13	Yellow Springs Camera Club.....	3
Photographic Society of San Francisco..	4	Large Clubs Amateur Class	
Miniature Camera Club of New York..	1	Cleveland Photographic Society.....	10
Small Clubs Amateur Class		California Camera Club.....	5
Taft Camera Club.....	14	Camera Club of Richmond	5
Calgary Photographic Society.....	6	Miniature Camera Club of Oakland.....	4
Lancaster Camera Club	5	Fotoklub Zagreb.....	3
Riverside Pictorialists	4	Photographic Society of San Francisco..	3
Norfolk Photographic Club.....	1	Sierra Camera Club of Sacramento.....	3
		Photographic Society of India.....	2

SUMMARY OF COMPETITION RULES

1. Open to all, amateur or professional, club member or non-club member.
2. Closing date 1st of each month.
3. Place technical data, club membership if any, selling price, and whether or not you wish to exchange on back of print.
4. No entry fees or blanks required.
5. Stamps must be enclosed for return of prints.
6. Full explanation will be sent free on request or may be seen on Page 42 of January 1938 issue.

Correspondence

Answers to "What Is Your Photographic I.Q.?"

From Page 278

1. Joseph Nicéphore Niépce. The first photographs made with a camera are generally credited to Niépce; his pictures being made between 1816 and 1829.
2. Sodium thiosulphate. Sir John Herschel discovered in 1819 that silver salts could be dissolved by sodium thiosulphate; at the time, however, it was improperly called sodium hyposulphite, a name which has persisted to the present day in the shortened form of "hypo."
3. U. S. 8. A relative scale of the two systems is as follows:

F.	f:6.3	f:8	f:11	f:16
U. S.	2½	4	8	16
4. Potassium bromide. The chemical is referred to as a restrainer.
5. Its exposure rating is faster. A film with a Scheiner rating of 16 corresponds to a film with a rating of Weston 5.
6. Sigmund Freud. Freud is an Austrian psychoanalyst.
7. One to fifty. In a print the visible separation of tone gradations stops sharply at the points of over and under exposure. Gradations of reflected light at these points are not discernable; consequently a very limited latitude.
8. Eight times. The ratio of the square of f:5.6 to the square of f:16 is a little better than 8.1.
9. Forty-five degrees. A ninety degree angle view would be of shorter focal length; twenty-eight and eighteen would be of greater focal length.
10. Red filter. The use of a red filter or preferably an orange-red filter, permits a transmission to the film of practically all the orange and red light reflected from the wood.

About Tanks

Dear Sir:

I hope I'm not too late to warn the innocent who may have believed that Mr. R. C. Alexander's developing tank air relief valve is necessary, nay, even desirable, and so believing, have also mutilated their tanks.

I know how Mr. Alexander felt after his first try with his shiny new tank to find only half of each negative developed. Only too well!

After having saved enough to buy my "tin dark room," I proudly brought it to night school photographic class to show it off. No sooner had I entered the room

than one of my classmates threw up his hands and asked if I'd paid good money for one of those d— things. He went on to explain that one could not fill the tank completely, giving him the same trouble as Mr. Alexander, and said he had sold his tank to the first sucker with two dollars.

Well I feel sorry for my ex-classmate—and Mr. Alexander; my classmate for practically giving away a very nice piece of photographic equipment; Mr. Alexander for adding bulk to a readily portable darkroom.

The simplest way to rid the tank of displaced air is to release the two snaps on one side of the tank. Fog? No, sir—not if operations are carried on indoors or in the shade. You see, the rubber gasket in the lid acts as a good light trap, being black, even when only lightly fitted. Portability being one of the niceties of a developing tank of this type, why destroy it by adding bulk?

A few tips may not be amiss.

Boon companion to the developing tank is the changing bag. The one being designated as 8 x 10 size is the best for use with most sizes of tanks.

After using a changing bag it should be turned inside out and shaken well to rid it of lint, paper particles, etc. Incidentally, do your loading or unloading, if in the field, in the coolest place possible, Perspiring hands have ruined many a prospective picture.

Never, never close the tank tightly when not in use. The least moisture so enclosed corrodes the tank so badly it must be thoroughly cleaned before again being used. A good cleaning with a stiff bristle brush once in a while helps also.

While you are washing your film you may as well throw in the lid of the tank and wash it too. The sheet rubber gasket can absorb quite a bit of developer and fixer.

Lastly if you must tinker, when the cross-bar on the top of the film receptacle in the tank comes unsoldered, resolder it on the back of the side piece so that the film can slide in and out more easily.

ALBERT B. MARSHALL

Club Notes

Forthcoming Exhibitions

International Salon of Pictorial Photography at Lom U Mostu. Address International Photographic Exhibition, Lom U Mostu, Bruch, Czechoslovakia, or Edward Alienius, Holmes Brook Road, Basking Ridge, N. J. Closing date June 1, 1938. Entry fee 5 Swiss francs. Limit 4 prints. July 3 to 18, 1938.

Second International Exhibition of Photography, Scarborough. Address Exhibition Secretary, Scarborough Photographic Society, 18 Ramshill Road, Scarborough, Yorks, England. Closing date June 18, 1938. Entry fee 5s, limit 4 prints. July 30 to August 27, 1938.

Photographic Salon at Cariff, Wales. Address Mr. Watcyn Evans, General Secretary, Eisteddfod Office, 11 Park Place, Cardiff, Wales. Closing date June 30, 1938. No entry fee, but return postage must be prepaid. Limit 4 prints. August 1 to 6, 1938.

Paris XXXIIIrd International Salon of Pictorial Photography. Address M. le Secrétaire, 51, Rue de Clichy, Paris, France. Closing date June 30, 1938. Entry fee 40 francs. Limit 4 prints. October 1 to 16, 1938.

Third International Exhibition of Photographic Art in Ljubljana. Address Fotoklub Ljubljana, Levstikova ul., Ljubljana, Jugoslavia. Closing date July 15, 1938. Entry fee 5 S. francs. Limit 4 prints. September 1 to 12, 1938.

83rd Annual Exhibition of the Royal Photographic Society of Great Britain. Address The Secretary, The Royal Photographic Society, 35 Russell Square, London, W. C. 1, England. Closing date July 29, 1938, limit 4 prints. September 10 to October 8, 1938.

Seventeenth Annual "All-American Photographic Salon." Address James S. Lawshe, 604 Standard Oil Bldg., 10th & Hope Sts., Los Angeles, Calif. Closing date August 20, 1938. Entry fee \$1.00, limit 4 prints. September 11 to 30, 1938.

Ninth Chicago International Salon of Photography. Address Salon Committee, Chicago Camera Club, 137 N. Wabash Ave., Chicago, Illinois, U. S. A. Closing date August 24, 1938. Entry fee \$1.00, limit 4 prints. October 1 to 31, 1938.

South African Salon of Photography. Address Secretary, South African Salon of Photography, P. O. Box 7024, Johannesburg, South Africa. Closing date September 1, 1938. October, 1938.

Twelfth Annual Open Exhibition of the Lincoln Camera Club. Address Hon. Exhibition Secretary, F. J. Codd, 309 Burton Road, Lincoln, England. Closing date September 10, 1938. Entry fee one shilling per print. October 6 to November 30, 1938.

Fifth International Salon of Pictorial Photography, Budapest. Address Jozsef Ferencz, rakpart 17, Budapest IV, Hungary. Closing date September 15, 1938. Entry fee \$1.25, limit 4 prints. October-November, 1938.

The New York Salon of Photography. Address the Salon Committee, The Camera Club, 121 West 68th St., New York, N. Y. Closing date October 1, 1938. Entry fee \$1.00, limit 4 prints. October 30 to November 20, 1938.

Third Philadelphia Photographic Salon at the Art Alliance. Address Salon Secretary, Philadelphia Art Alliance, 251 South 18th Street, Philadelphia, Pa. Closing date October 24, 1938. November 15 to December 4, 1938.

Sixth Syracuse International Salon. Address Herbert N. Baker, Salon Director, Camera Club of Syracuse, 340 Montgomery St., Syracuse, N. Y. Closing date November 4, 1938. Entry fee \$1.00, limit 4 prints. December 4-31, 1938.

Golden Poppy Photographs Wanted

In 1903 Mr. Emory E. Smith, then a member of the faculty of Stanford University published a book entitled "Golden Poppy" which was universally accepted as California's State Flower Book. This book celebrated California's beautiful state flower in prose, poetry and picture. All stocks of this book were destroyed in the San Francisco fire. In response to insistent demand Mr. Smith is now engaged in re-writing the volume, and in bringing it

completely up-to-date. He is in particular need of good photographs of extensive poppy fields since such expanses are rapidly disappearing. He also needs good photographs of the Golden Poppy in all conceivable aspects.

The publication of the book is strictly a patriotic enterprise and it will be sold at cost, so payment cannot be made for pictures, though full credit will be given to all photographers that contribute.

Camera Craft sincerely hopes that many of its readers will have prints which they will be willing to donate to such a worthy cause. Send prints to: Mr. Emory E. Smith, 651 Howard St., San Francisco, Calif.

Photo Tours Sponsored by Bear Photo Service

The Bear Photo Service, 330 Grove St., San Francisco, Calif., recently sponsored two photographic tours.

On April 10, with 612 paid fares, a special train left San Francisco for Santa Cruz. It stopped in the Blossom Country, to give the photographers the benefits of the many possibilities offered there, and in Saratoga the Chamber of Commerce took the group on an auto tour, of 100 cars, to the Big Trees. The train that transported this tremendous group consisted of 10 cars and two engines and the success of the tour would indicate that any future trips of this sort would surpass this number easily.

To offer variety to the Photo Train, the Bear Photo Service organized a Photo Boat. 1500 people sailed on the S. S. Yerba Buena, from the Ferry Bldg., on May 15. The boat toured the entire Bay, including the Fair Grounds, leaving at 9:30 a. m. and returning at 6:00 p. m. The cost of the trip was \$1.00 per person.

Visual Education With The Leica

"Visual Education With The Leica" is a very interesting little booklet written by Raymond B. Collard. It outlines the use of the Leica Camera in the various departments of the School and College and shows how well the camera lends itself to educational purposes. All educators and others interested in this increasingly important field should read this booklet. It will be sent free upon request to Spindler & Sauppe, Inc., 86 Third St., San Francisco, Calif.

The Cameraman Speaks

Every Saturday night from 7:45 p. m. until 8 o'clock P. S. T., Ben Dobus, "The Cameraman" of KFRC conducts a most interesting program on photography. All manner of photographic subjects are discussed, and the information offered will be helpful to all. From time to time the program sponsors print contests in which valuable prizes are offered. Take our advice and tune in on KFRC, next Saturday night.

Nicholas Haz School of Composition

Courses in the Nicholas Haz School of Composition, 27 Park Ave., New York City, will begin on June 27, July 5, 11, 18, 25, August 1, 8, 15, 22, and 29. Each course will begin on Monday and end on Saturday and will consist of eleven sessions. Tuition is \$30.00 and further details may be had upon request from the address above.

Notes and Comments

New Super Panchro-Press Announced by Eastman

A new Super Panchro-Press Film, more rapid than Panchro-Press but retaining all the physical characteristics of this popular emulsion, is announced from Rochester by the Eastman Kodak Company.

Extremely fine grain, freedom from abrasion, excellent gradation, and a reasonable development time which permits control under unfavorable temperature conditions, are claimed for the new Super film.

Super Panchro-Press will produce a softer negative with normal development

than other ultra-speed press films. This is a distinct advantage in flash work, when contrasty lighting is the rule. However, when added contrast is desirable, as in negatives taken on dull days, in late afternoon, or under extremely flat lighting, added development of 30 to 40 per cent will give negatives with ample snap and brilliance. This development latitude enables the new film to cope with virtually any light condition.

The new Super film retains another valuable trait of Panchro-Press — Namely, that continued development will build up excellent shadow detail in underexposed

negatives. Despite its added speed, grain is for practical purposes as fine as that of Panchro-Press.

Tests with the new emulsion indicate that it will give excellent results when developed under normal press conditions. Where more rapid processing is desirable, D-19 developer is recommended. The fixation rate is identical with that of Panchro-Press.

Super Panchro-Press is made less sensitive to red than other ultra-speed films, and gives well-balanced color rendering. This characteristic, coupled with its good scale and gradation, fits it for press work of superior quality.

Photrix

A New Photo-Electric Exposure Meter

The International Marketing Corporation announces, the Photrix, a new photo-electric exposure meter that eliminates the calibrated dials that require setting on other exposure meters. As shown in the illustration, there is only one dial.



Photrix Exposure Meter

The figures across the base of the dial, are exposure times, seconds on the left and fractions of seconds on the right. Readings are given on these figures. At the top of the dial are the Schiener and Weston speed ratings for films and below these the appropriate lens apertures. Having the exposure time from the reading, it is only necessary to select the speed rating of the film you are using and read the aperture below. The figures, lower right on the dial,

are a frames-per-second scale for use in motion picture work.

The Photrix is remarkably small and compact, measuring only 2x2½ inches and 13/16ths of an inch in thickness. It may be worn on the wrist while taking pictures and its dial and light intake are so arranged as to make this feasible.

Photrix is distributed by the Intercontinental Marketing Corporation who are now located in their new and larger quarters at 8 West 40th St., New York, N. Y., and further details may be had upon request.

Craig Movie Supply Co. Opens New San Francisco Branch

The Craig Movie Supply Co., Inc., of Los Angeles, opened their new San Francisco Branch, on May 16. The elaborate suite of offices, at 149 New Montgomery St., will display the complete line of Craig Products, for the convenience of Northern California dealers.

A feature of the Craig line are the Craig Junior and Senior Splicing outfits. These outfits are offered in a large variety of style and price range, that will fit every cinefan's needs and pocketbook.

See the Craig Splicing Outfits at your dealers or write the Craig Movie Supply Co., Inc., 149 New Montgomery St., San Francisco, Calif., for further details.

New Camera Store in Long Beach, Calif.

Photographers of Long Beach, Calif., are fortunate in having a new store to cater to their needs. The Camera Supply Co., 126 East 3rd St., offers a complete stock of equipment and supplies in their thoroughly modern shop, designed specifically to fill every photographic need. The proprietors, Mr. Earle McCutchan and Mr. Orville Yochem are men whose experience has equipped them to assist photographers with every type of problem of a photographic nature.

Daniel S. Meyers to Represent Burleigh Brooks on West Coast

From Burleigh Brooks, Inc., comes a news note of special interest to all dealers on the West Coast.

Daniel S. Meyers, formerly in charge of dealer sales in the East, will be Brooks' sole representative on the West Coast. Mr. Meyers will make his headquarters in Los

Angeles, and will cover the entire western territory, including California, Oregon, Washington and neighboring states. Dan Meyers is by no means a stranger to California. He was for many years a resident of Los Angeles. In fact, his children were born here and he did not go East until 1928, when he took a sales position with E. Leitz, Inc., with whom he remained until 1932. With Leitz, Mr. Meyers pioneered in the miniature camera field—calling on dealers all over the country, giving demonstrations and talks before camera clubs and scientific organizations on the use and application of miniature photography in all fields.

In 1932 he joined the sales staff of the Agfa Ansco Corp., where he was in charge of the wholesale division for the metropolitan area of New York and called on retail photo supply dealers. He left Agfa in 1936 and took over dealers' sales in the East for Burleigh Brooks, Inc.

Mr. Meyers is undoubtedly one of the best-informed men in the industry, having had considerable experience in portrait, commercial, amateur finishing and other branches of photography. He has made it a point to keep abreast of latest developments in order to be able to help and advise dealers whenever occasions arise.

We are sure that the many friends Mr. Meyers has made in the East will be sorry to see him leave that section. But we are also confident that they, like ourselves, wish him the very best of success on the West Coast.

New Graflex Catalogue

Incorporating twenty outstanding photographs, many of them prize-winners in major contests and exhibitions, as well as photographs of twenty-four of the country's most illustrious photographers, the new Graflex catalog just published has more than normal interest for camera enthusiasts. It is now being distributed to those hobbyists requesting copies and may be had without charge either by writing direct to the Folmer Graflex Corporation, Rochester, N. Y., or at Graflex dealers.

Hobbyists will welcome the new catalog not alone for its complete information concerning Graflex and Speed Graphic American-made, prize-winning cameras but for the many tables and tabulations of details

and specifications by which the prospective purchaser can compare and evaluate the various models and thus make his choice.

Foto-Flat

A New Dry Mounting Method

The firm of Seal, Inc., of Shelton, Conn., announce a new method of mounting prints. Foto-Flat is an entirely new, scientifically developed membrane that will mount prints without pressure and with the low heat of an ordinary electric iron. It is now supplied in all sizes from 1¼" strips for 35 mm. prints to 16 x 20" sheets and rolls 16" wide by 100' long.



Foto-Flat Mounting

Foto-Flat overcomes all the objections inherent in other dry mounting processes so far developed, and embodies many additional advantages, it is claimed. It is quick, easy to use, and assures perfect mounts. It is permanent or may be removed when desired by reversing the mounting process. It is absolutely impervious to moisture and unaffected by climatic temperature changes.

In using Foto-Flat you merely touch the edge of your iron to the membrane, thus slightly fusing it to the under side of the print. This slight heat application should be applied to the entire under surface, thus making membrane and print a single unit so that trimming may be easily affected. Next, place the trimmed print in position on the mount, cover it with a thin scrap of paper and apply the iron, being careful that all parts are heated. This completes the entire mounting process and leaves you a perfectly flat print, permanently mounted.

For further details write Seal, Inc., Shelton, Conn.

Art Flower Studio

The Art Flower Studio conducted by Mrs. Avis H. Fishback, 2811 D St., Sacramento, Calif., manufacture flowers from wood fiber which are not only unusually beautiful but also permanent. These flowers will not fade or otherwise deteriorate and may be washed without damaging them in the least. In the photographic studio, they may be put to an infinite variety of uses, such as: studio decoration, wedding bouquets and corsages for feminine subjects, and with the use of a surprisingly few flowers it is possible to obtain a garden effect. The Art Flower Studio has a large stock of items on hand or will fill any special needs on order, write them at the above address.

Weston, Jr. Exposure Meter Offers Compact Simplicity

A new photo-electric exposure meter, unusually compact and simple to use, has been announced by the Weston Electrical Instrument Corp., Newark, N. J. Known as the "Weston Junior" the new meter is lower in price than other Weston models, yet it provides dependable exposure settings for all normal picture-taking requirements. It employs the same type of stable Photronic Cell (electric eye) and sensitive instrument movement used in the Weston "Universal" and "Cine" meters. The "Weston Junior" is expected to appeal particularly to miniature camera users and other amateurs anxious for vest-pocket size without sacrifice of accuracy or dependable operation. It sells for \$15.50.

The new meter has a circular cell-window on one side, designed to cover a uniform angle of view, comparable to that covered by the normal camera lens. On the opposite side of the meter is a full vision dial. Thus, when the meter is held in viewing position, the user can take the readings while keeping an eye on the scene he plans to photograph.

Light values as measured by the "electric-eye" are shown by a pointer moving over the lower scale on the dial, which is marked off in 24 divisions. Actually, these divisions correspond to a difference of $\frac{1}{2}$ an "f" stop in aperture settings, permitting the close regulation of exposure so necessary in work with color films.

Above the meter-scale, there is a movable "calculator band," operated by a knurled knob at the top of the meter. Turning this knob permits rapid determination of all possible aperture-shutter combinations for any particular light value and film speed.

Provision is made for 17 film speed ratings from 0.7 to 200 Weston, meeting all present or future requirements of super-speed films. There are 17 aperture stops from f:2 to f:32, and 27 shutter speed settings from 60 sec. to 1/1000 sec. The non-applicable values are concealed under the scale plate, reducing the possibility of erroneous readings.

Sensitivity of the new meter to low light values is such as to provide readings where camera settings down to f:2 and 1/5 sec. are required on ordinary film. At the high end, the most brilliant beach and snow scenes remain within the meter range without the use of multipliers or adapters.

The new "Weston Junior" meter is not expected to supplant the Weston Universal (Model 650) in the hands of more experienced photographers to whom the flexibility of the calculator dial for interpreting "brightness range" measurements and the like, makes its chief appeal. For most camera users, however, it offers compact simplicity and low cost for the overwhelming proportion of the pictures they take.

Camera Hospital Installs New Equipment

A few days ago we called at the Camera Hospital, 717 Market St., San Francisco, Calif., and found the establishment undergoing a complete modernization program. Among other things, the proprietor, Bill Peters, showed us a new lathe that was truly a thing of beauty and that will do more tricks than a troupe of acrobats. Mr. Peters is replacing all old equipment and installing new to keep his machinery up to the growing precision with which modern photographic apparatus is now being made.

Free Offer

Combination Sun Shade & Filter Case

Henry Herbert, distributors of the internationally famous LIFA filters, announce a new free offer that should be of vital interest to every camera fan.

Select any two LIFA filters of the same size, and LIFA will give you, free of charge, an ingenious combination sun shade and filter case. The holder is specially constructed to keep the fine glass of LIFA filters entirely free from dust, scratches, and abrasion. It is sturdily made of genuine bakelite, fitted with a thin, strong, two-way disc that keeps either one or two filters from rattling in the case.

The sun shade ordinarily forms the body of the filter case, and is carefully designed to the size of the lens for which it is fitted. It fits directly over the lens when no filter is used, or it can be slipped over the outside flange of any LIFA filter mount. The inside of the shade is finished in a permanent dull black.

The entire case is no larger than the conventional sun shade. The photographer can now carry his filters safely . . . and is always assured of having available a sun shade that fits his lens.

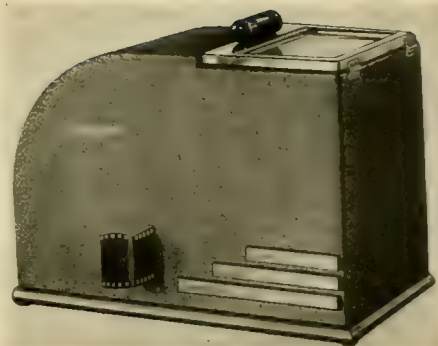
For complete details write to Henry Herbert, 483 Fifth Avenue, New York City.

Protyme, A Projection Printing Exposure Meter

The J-M-P Mfg. Co., 3026 No. 34th St., Milwaukee, Wis., announces the Protyme, a projection printing exposure meter. It plugs into an ordinary light socket and, for any sized print, the correct exposure in seconds may be read on the meter. It is simple and easy to use and is priced at \$15.00. It is supplied on a money-back guarantee or will be sent C. O. D. on receipt of \$2.00. Literature will be sent free upon request to the above address.

Make-A-Tube M.Q. Developer

John G. Marshall, Inc., 1752 Atlantic Ave., Brooklyn, N. Y., announce their new Marshall's Make-A-Tube M.Q. Developer. It consists of two separate powders and handy measures, conveniently packed, that make it possible to mix fresh developer quickly, whenever you need it. Make-A-Tube is compounded according to the finest Universal M.Q. formula, for any film or paper, and is furnished in quantity equivalent to 24 M.Q. tubes. You can buy Make-A-Tube for 50c from your dealer or John G. Marshall at the above address. Also write for a complete catalogue of Marshall's fine line of prepared developers, colors, fixers, and other darkroom aids.



Argus Speed Printer

Argus Speed Printer

The International Research Corporation, Ann Arbor, Mich., announce the new Automatic Argus Speed Printer which enlarges and prints to size $2\frac{3}{4} \times 4\frac{1}{4}$ inches from double frame 35mm. negatives, in a single operation. This ingenious device eliminates the greatest difficulty that confronted the users of 35mm. cameras, that of obtaining prints of a size suitable for study without making enlargements. The Argus Speed Printer enlarges the picture automatically to the $2\frac{3}{4} \times 4\frac{1}{4}$ inch size without the necessity of any focusing or trimming, making the operation as simple as contact printing. The Printer is of all-metal construction, $7\frac{3}{4}$ " high, $5\frac{3}{4}$ " wide, and $10\frac{1}{2}$ " long, and it weighs only $6\frac{3}{4}$ pounds, being priced at \$15.00.

The manufacturers recommend their new paper, Argus Bromex Printing Paper, should be used in the printer for best results, as it is especially made to use with the light and focusing characteristics of the printer. Argus Bromex Paper is supplied in all the usual grades and is reasonably priced: 36 sheets ($2\frac{3}{4} \times 4\frac{1}{4}$ ") single weight 35c, 24 sheets double weight 35c.

You can see the new Argus Speed Printer at your dealer's or can obtain further details from the International Research Corp., Ann Arbor, Mich.

The Pako Electrogloss Dryer

The Pako Electrogloss Print Dryer, offers the studio owner a way to increased profits in his business by turning out high-quality prints, quickly and efficiently. With a capacity of 350 Kodak-size prints an hour, the Pako Electrogloss Dryer turns

out the prints not only thoroughly and evenly dried but also with the finest, glossiest finish you can give them. Although the drier is electrically heated, it uses less current than an ordinary flat iron. The Pako Electrogloss Dryer is also economical with space and will fit into an area $1\frac{1}{2}$ feet wide, by four feet long by three feet high. Priced at \$255.00 for alternating current or at \$270.00 for direct current. For further details write, the Pako Corporation, Minneapolis, Minn.

Natural Color Print Service

Bryant C. Rogers, P. O. Box 622, Monterey, Calif., is offering natural color prints, approximately 4 x 5 inches in size, from Kodachrome 35mm. transparencies, for only \$1.75 a print. This service is the result of two years' experience which made possible the construction of special equipment that will handle the work quickly and efficiently. By using this special equipment and standardizing the print size the price of \$1.75 per print has been made possible. Prints are made by the Eastman Washoff Relief Process and are mounted on a suitable mat. Three day service is offered and for further details write Bryant C. Rogers, at the above address.

Western Representatives for the Kalart Co.

The Kalart Company, 58 Warren St., New York, N. Y., announce the establishment of a West Coast Sales and Service Branch, with headquarters in the Taft Building, Hollywood, Calif. The new office is under the direction of Miss Leda Dubin and Mr. Chandler Weston, two people whose helpfulness and ability has already won the esteem of dealers up and down the coast.

The Motorial All-Metal Tripod

Mimosa American Corporation is bringing on the market a new high-class tripod, the Motorial All-Metal Tripod, distinguished by a number of features that elevate the same into a class of its own. Both the tilting and panorama movements having ball-bearings and being governed by adjustable friction, all jerking motion is completely eliminated and a movement of the head obtained that is unsurpassed in

smoothness and uniformity. The head also is fitted with a spirit level so that accurate leveling is possible. There is also provided a full circle scale of 360° for the panorama movements. Tilting goes up to a full right angle on both sides. The tripod handle may be attached either straight or at a slant. Composed of two sections, the Motorial All-Metal Tripod is exceedingly rigid, strong and stable. Weight — 8 pounds; height—60 inches when extended, closed 36 inches; price—\$48.00. See it at your dealer's or write the Mimosa American Corporation, 485 Fifth Ave., New York, N. Y., for further details.

New Free Booklet On the Use of General Electric Exposure Meter

A new publication that tells and shows how to use the General Electric exposure meter is now available. Bulletin GED-678 briefly explains the simple operations necessary to use of the instrument in bright, medium, and dim light. Further, the photographer is instructed as to use of the meter for movies or stills, in color, or in black and white.



It is designed for use over a wide range of illumination levels and is simple to operate. The light-sensitive cell is of the same type which has proved its durability in the General Electric light meter. Write the General Electric Co., Dept. 6U201, Schenectady, N. Y., for your copy of Bulletin GED-678.

CLASSIFIED ADVERTISEMENTS

Rate: 6 cents a word; minimum \$1.50 each insertion, prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆ Robot—Magic-Eye type camera, Zeiss Tessar F:2.8, Eveready case, 2 extra cassettes, absolutely new condition, \$100.00. Original retail value \$198.00. If contacted by June 10th, sunshade, three filters included. Sold preferably to Bay Region resident. L. Levey, 3867 Jackson, San Francisco, Calif. Phone BAYview 3474.

◆ Eastman Model B. Kodascope 16mm. Self threading complete with case and splicer. All like new. \$65.00. Will ship C.O.D. with permission to inspect. E. Tilton, 4027 Waterhouse Road, Oakland, Calif.

◆ 4x5 Graflex D, 7" Tessar F:4.5, Distar, shade, 18-exposure film magazine, 5 film holders. Excellent condition. Make offer. Details on request. R. F. McGraw, Sierra Madre, Calif.

◆ Korelle K single frame 1x3/4 camera. Zeiss Tessar F:2.8 focussing to 2'. Rapid Compur shutter. Takes 36 Kodachrome exposures on regular 18 exposure roll. Excellent condition, \$60.00 with tripod. E. R. Wellington, 220 S. Edith, Albuquerque, N. Mex.

◆ 3 1/4 x 4 1/4 Auto Graflex; revolving back, 7 1/2 - 8 1/2" Graf Variable lens F:3.8, cut film magazine, 6 cut film holders, film pack adapter, roll film adapter, holder for 2" square filters, leather carrying case. Camera like new, case slightly worn but in good condition. List price \$251.00. Bargain for quick sale, \$90.00. Address A. G., Care Camera Craft, 425 Bush St., San Francisco, Calif.

We will buy your camera equipment regardless of make or model. TOP CASH PAID.

L. A. Camera Exchange, 1037 So. Olive Street, Los Angeles, Calif.

NEED MONEY?

We loan money on all kinds of cameras, specializing in miniatures—graflex, graphic, movie cameras, lenses, accessories—also microscopes and binoculars. All loans are good for one year.

NO EXTRA CHARGES OF ANY KIND

H. Stern, Inc., 872 6th Ave. (At 31st St.), N. Y. City
Bonded pawnbrokers since 1858

BARGAINS

Foth Derby, 1/2 V. P., F:2.5, as new.....\$24.50
Auto Graflex R.B., 3/4x4 1/4, B & L F:4.5 85.00
B & L Protar Vilia, covering 5x8, list \$111.10 45.00
Dollina II, F:2.9, 1/500, Range Finder..... 42.75
Other Bargains—write us camera wanted. All sold on 10-day money back trial. Liberal allowance on trades.

JAMES CAMERA COMPANY, Dept. IC
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"The Stretch"

Glen Fishback

CRAFT

1938
FOR IN PHOTOGRAPHY, PART III
EDITING GROSS CONTRAST
EDITING MADE EASY

PRICE 25c
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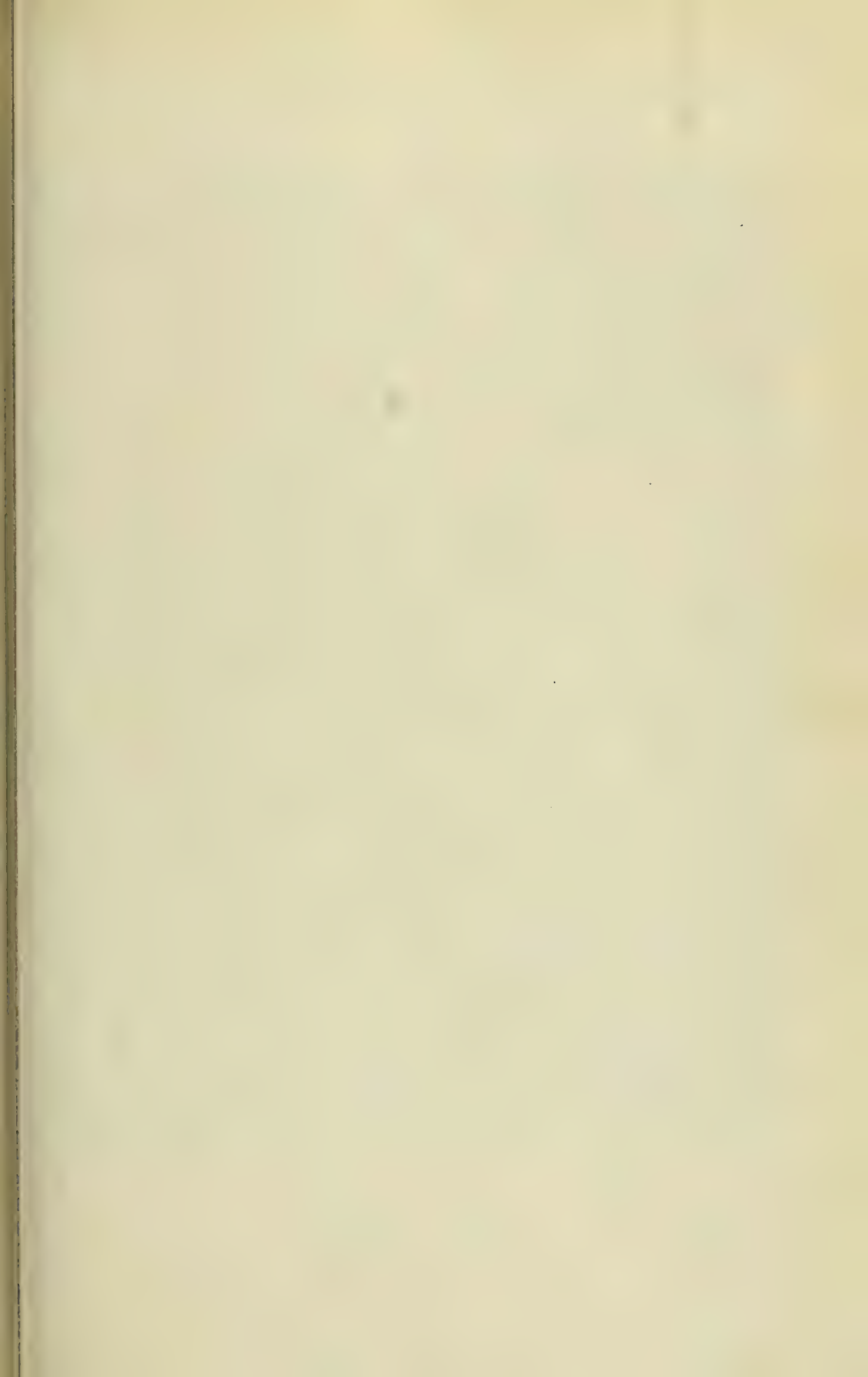


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"The Disconsolate Quadroon"

William Mortensen

Color in Photography

William Mortensen

Part III

WITH the amateur, and the average worker in photography, the main interest and logical objective, is *the print*. Of course there are numerous subsidiary interests—handling the camera, arranging the pictorial material, development, printing, and the rest of it—but they are all of them merely preliminaries to the climax of securing, on a flat opaque surface, the pictorial replica of the subject matter.

Of all the arts, the pictorial and graphic arts are the most nearly universal in their appeal. Persons to whom poetry, architecture or music make no sense at all, are still able to understand *pictures*. Most of us begin to take pleasure in *pictures* even before we are able to talk. And, in the history of the race, the earliest form of written language was in terms of *pictures*.

And here we touch on the weak spot of contemporary color photography. And also we touch on the source of the average amateur's disappointment in color. This is the trouble: the logical climax for all the hullabaloo about color, all the additional expense and all the fresh complications, is conspicuously lacking. There are, in brief, no records of the subject matter on a flat opaque surface—*no pictures*.

This is a matter of genuine concern to the amateur. Color appeals to him: he gets a real emotional reaction from all the sparkle and glow of color in the world about him. He would like to get something of this into his pictures. He also sees, every day in most any magazine, fair examples of photographic color. But for him to hope to get any comparable results, with the facilities and processes now available to him, is as futile as to wish for the moon.

To be sure, the amateur is assiduously going after color these days, but the only type of process in which he is meeting any sort of success is in

the making of *transparencies* or slides. The Agfa color plates, Dufay Color, and Kodachrome are perhaps the outstanding examples of this type of process. They are exceptionally clever in conception, and imply an amazing amount of technical skill that has gone into the preparation of these materials. By means of lengthy and exacting procedures, the first two may be developed by an advanced and exceptionally skilled amateur. The third one, Kodachrome, demands simply careful exposure, for it is processed only by the manufacturers.

These processes yield—if you are skillful and possibly a little lucky also—very fine transparencies, with reasonably accurate and brilliant rendition of colors. But no matter how successful or fortunate the results may be, the fact remains that these processes can yield *nothing but transparencies*. And a transparency is, unquestionably a very poor substitute for a picture. It cannot be looked at picture-fashion except by the temporary and round-about expedient of projection.

The transparency is also subject to the criticism that it is unique and is incapable of being duplicated or reproduced by any method ordinarily available to the amateur.

Let us briefly consider, in regard to their applicability to amateur use, the principal processes for making prints in color.

1. Undoubtedly the best processes at present available for making color prints are the various *photo-mechanical processes for reproduction*—lithography, letter-press, photogravure, collotype, etc. The best examples of photographic color that we may see today are produced by some of these processes. They are all quite old methods, and the procedures involved are well-established and standardized. Obviously, however, none of these photo-mechanical processes can be made accessible to the amateur or average worker in color, for they require the intervention of trained technicians and specialists and are also extremely expensive in operation. (The mere engraving of the plates for an eight-by-ten three color letter-press job would cost in the neighborhood of \$200.00.

2. Three-color carbon, and its near relative three-color carbro, are sometimes attempted by amateurs as means of securing a print in color. But the process proves to have almost insuperable difficulties as far as the amateur is concerned, and severe technical limitations as far as the print quality is concerned. Although the process is simple enough in principle, it requires the most skilled of technicians to make a good carbro. And it also requires a technician with plenty of time on his hands. In making a three-color carbro, one has to place three slimy and infinitely delicate tissues one over the other in perfect *registration*. To get two of the tissues in register is amazing good fortune, and to get the third one also in register is barely short of the miraculous. It is a long and tedious process, and even a skillful worker may well spend several days in the effort to get a presentable carbro. And even if good registration is secured, there is still chance for failure. The color balance of the three tissues may not be accurate so that color relationships in the final print are wierdly distorted; but it is not possible to judge accurately of this until the three are put together. When such distortion occurs, the whole print must be made over. The amount of handling that a carbro goes through makes a clean result almost impossible. Even the best professional carbro jobs are apt to show dust spots, hairs, bits of lint, etc.



"Magnolia"

A. S. Upton

Baltimore International Salon

From the pictorial angle, even a good carbro is open to much criticism. The characteristic colors of a carbro are harsh and crass and the surface is always glossy. There is no possibility of control or local adjustment either of color or of structure.

3. Another old process is the three-color gum bi-chromate. This is even more ungainly than carbro, and manifests nearly all the same faults: difficulty of registration, difficulty of securing color balance, uncleanness, and absence of any effective control.

4. *Imbibition* represents another effort to secure colored prints. It operates by transferring the dye from a stained gelatine image onto a paper support. It is in practice a very difficult and uncertain process; for three such transfers must be made, one on top of the other, in perfect *registration*. There are many technical quirks involved, and many opportunities to go wrong. After two days of heart-breaking and nerve-racking work, you may well find that you have produced, not an imbibition, but an abortion.

5. *Relief processes*, like imbibition, are based on the transfer of dyes to a paper support. They similarly require several superimposed transfers, and so involve the old hoodoo of registration.

6. One of the very oldest of processes is the *direct color* process of Seebeck. It is based on the fact that, by protracted exposure, silver chloride turns the same color as the light that shines upon it. There is a beautifully direct simplicity about this method—no filters, no three color separation, no dyes, no registration. However, it is not a practicable process in its present state, for the colors so obtained are pale and incapable of being fixed. The process is practically forgotten today. Nevertheless, we may safely predict that it is in something along the line of the direct color of Seebeck that the great advance in color photography is going to be made ere long.

7. The "*bleach-out*" process is also an old one. It, too, is a direct method for making a color print. The procedure depends on the fact that certain very fugitive dyes are not bleached by light of their own color. By coating a piece of paper with a combination of dyes of the three basic colors, it is possible to secure a fair replica of a colored image. Unhappily, like the Seebeck process, this method is at present quite impracticable, for the colors in the print may not be fixed against further bleaching and, unless kept in the dark, will fade completely.

These are the processes commonly available to the amateur who craves colored prints. And none of them are really satisfactory for amateur use. Let me sum up the various serious faults that disqualify these processes.

1. Expensive.
2. Tedious and time-wasting.
3. Impossible to secure clean results.
4. Total lack of local control of color and structure.
5. High degree of technical specialization is required.
6. The problem of "registration."
7. Fugitive or unsatisfactory colors.

I have come to realize the shortcomings of most of these processes by sad personal experience—by long profane hours spent wrestling with slithery carbro tissues, by imbibitions that wouldn't imbibe, by reliefs that



"Eyes of the Forest"

Guy Jaconelli

Baltimore International Salon

wouldn't register correctly. So I have been for a long time working on the problem of a simple and practicable method for making a color print. Only within recent months have I begun to arrive at a satisfactory answer to the problem—a method and procedure which has been tentatively titled the Metal-Krome Process.*

There is, among possible methods of securing color in a print, one that has been unaccountably neglected. This is a procedure based on the *chemical conversion of the brom-silver image* into the exact colors of nature. The method is simple and direct, and has the further advantage of being a strictly photographic procedure.

The number of formulas and methods for chemical toning is, of course, very large. But not many of these proved suitable and practicable in the making of a color print. A long series of tests and experiments** was required to find the small group of chemical tones, simple, compatible and permanent, upon which the Metal-Krome process is based.

Since the process is principally intended for portrait use, it is built upon, and especially features, the securing of good *flesh tones*. The flesh tones, incidentally, are usually the worst rendered part in colored prints made by any other available process. The superimposition of successive layers of color, which is the characteristic procedure of these processes, yields flesh tones that are muddy or livid. But the Metal-Krome method of chemical conversion simply transforms the photographic half-tones into flesh tones which automatically remain true and brilliant throughout their range.

The process is well adapted to the requirements and technical proficiency of the reasonably skilled amateur. It needs *no three-color camera, no separation negatives, no superimposition of dyes, no registration*. Instead, it proceeds by direct chemical conversion of the photographic image on the print itself. The possibilities of control, both of color and structure, are considerable.

In the early days of my experimentation with the process, a serious problem, from the viewpoint of the amateur, was the absence of any sort of color record to follow during the procedure of conversion. The advent of Kodachrome has solved this problem. The projected Kodachrome transparency may serve merely as a guide in color values or it may be accurately duplicated in print form by the process.

That the process is practicable and workable has been proved by the success it has had in the hands of a selected group of students. I do not attempt at this time to give any of the details of the procedure since the intent of the present series of articles is critical rather than descriptive.

*The colored frontispiece in this issue, and in the two preceding issues, are reproduced from colored prints made by this method.

**My own approach to photography has always been practical rather than scientific. So, in coping with the chemical and technical problems of the process, I have owed much to the advice and guidance of Anton Schaller, whose extensive experience in color technology goes back to Germany before the days of the war.



"Figure"

Harry T. Johnston

Baltimore International Salon

Fighting

Gross Contrast

H. W. Wagner

EVERY amateur who has worked extensively on outdoor photography has had this experience: An attractive subject, containing a long range of light tones, is located. The negative is exposed and developed, and reveals beautiful detail and gradation throughout. A straight print is most disappointing!

Why is the straight print so unsatisfactory? Because, if treated for soft contrast, it is flat and lifeless, with weak rendering of detail. Because, if treated for high contrast, only one part of the general tone range reveals satisfactory detail, while one or both ends of the scale come debased—black blank shadows, white blank high lights. The explanation is great gross contrast.

Gross contrast is that contrast which exists between large portions of the scene, as recorded on the negative, such as between a group of dark trees and a bright sky. *Detail contrast* is that between tiny shadows and tiny high lights, which contrast, for example, reveals texture of a surface.

Low detail contrast helps to soften and simplify areas when the aim is a composition of masses. However, when value of the picture depends upon texture or other fine detail low contrast is a detriment. It must be just right, though, because too much detail contrast can create unpleasant harshness. Proper gross contrast is needed for a desirable balance of masses: too much has the effect described in the second paragraph.

Do not blame latitude of the film for too much gross contrast. Instead, consider limitations of the paper. The ideal print would be one which reproduces the full range of tones of the original subject, with all in true proportion. Opacities of the negative would be proportional to the light intensities of the subject, and tones in the resulting print would be proportional to the opacities of the negative. Ability of the negative approaches this ideal as may be seen when it is viewed by transmitted light. The print, however, is viewed by *reflected* light, when we lose many of the gradation effects in the heavier silver deposits of the shadow portions, when the illumination is intense enough to make the high lights equal those of the subject. Furthermore, surface of the emulsion reflects some light from the darkest tones

which can be produced. The impression gained from viewing a print by reflected light is dependent entirely upon the *apparent* density of the silver.

Among data published by the U. S. Bureau of Standards a typical negative "exposure scale" is 100. This means that when the lightest part of the subject is 100 times as bright as the darkest part, all values can be rendered in the film in their true proportions. The Weston exposure meter booklet uses a ratio of 128 to 1 as a safe average range. For practical pictorial purposes the range extends somewhat further, so far as the negative is concerned. If an under-exposed film and a heavily over-exposed film are processed, their relative opacities may be measured with a strong light and a light meter. A ratio of transmitted light of 1000 to 1 is easily obtained: this ratio of course is not rendered in true proportion to exposure or to light intensities of the subject.

Opacity should not be confused with technical density of the negative. In scientific work equal steps in density correspond to equal steps in the logarithm of opacity ratio. For example, an opacity ratio of 1000 to 1 represents a change in density of 3 units. An opacity ratio of 100 to 1, more than sufficient for most photographic subjects, represents a change in density of 2 units. Those not wishing to analyze this mathematical relationship need think no more about it.

Apparent density of a print tone is defined as the reciprocal of the relative intensity of light reflected from the surface, such as may be measured with a meter. This apparent density is not the technical density referred to in the preceding paragraph. If the paper had a long enough tone range, this apparent density would correspond to reciprocal of the opacity of the negative, or to intensity of light transmitted through the negative in printing. Published diagrams indicate that a typical range obtained by light reflected from a print on paper, and in reasonably true proportion to the exposures, is about 10 to 1. The writer has measured a maximum apparent ratio of tones, from white and black glossy ferrotyped bromide paper, of about 80 to 1. Reflection of intense light (not glare) and a Weston meter were utilized. The difference between 80 and 10 is not a discrepancy because the 80:1 range includes end tones not rendered in true proportion to the exposures, the same as the 1000:1 opacity ratio for film includes similar end tones.

Finally we compare the ratio of 10:1 for paper with 128:1 for film, whereupon limitation of the print becomes more evident. Opacities of the film render gradations of a difficult subject in reasonably true values, but the paper cannot handle, adequately, the opacities of the film, and so fails to reproduce the subject as the film saw it. Of course when printing, we use the cut and try method and so can fit exposure to the speed of the paper more exactly than we can fit exposure of the original scene to speed of the film. However, with an exposure meter and precaution against under-exposure, latitude or long tone range capacity of the film insures sufficient coverage for practically all cases.

With adequate record in the negative but with too much gross contrast for a straight print, what are we going to do? If the image pattern is too fine and complicated, we simply may let the contrast come as it will. Or manipulation may be resorted to, in the paper negative or other control process. In many cases, though, the areas of contrast are large and not too



Fig. 1. Straight print treated for low contrast throughout. The limit of darkness has not been reached in any part.



Fig. 2. Straight print treated for moderate contrast throughout. Only the middle tones are satisfactory.

complicated in shape. The answer then is *dodging*, the weapon of our story.

Dodging is employed extensively by pictorialists for local control to simplify or balance composition and to print through high lights. Purpose of the following paragraphs is to explain more completely how it works, and to encourage greater appreciation of its possibilities. Methods vary. One is to hold shaped masks, opaque to actinic light, between the enlarging lens and easel. Another is to fix translucent masks near the negative.

Figures 1 and 2 are from straight prints. They are the disappointing variety. Something had to be done. The negative had been obtained after the expiration of nearly a week of vacation on Cape Cod, waiting for rain to end and for dense clouds to break away. Unusual gross contrast had been seen in the subject at the time. So the film was "over-exposed" and "under-developed" to prevent too much general contrast in the negative.

Exposure was $1/5$ second at $f:11$ on orthochromatic $3\frac{1}{4} \times 5\frac{1}{2}$ cut film, no filter, 6 a. m. in September, with position of sun as shown. The image had been focused on the ground glass back, of the camera, which was equipped with an $f:6.3$, 17 cm., anastigmat lens. No meter was available, but exposure on the comparatively dark beach may have been twice as much as a meter would have called for, while that on the brightest part of the sky may have been 250 times that prescribed. At any rate, the negative, when held in front of a strong light, revealed very desirable gradation throughout its entire area.

Dodging is described with reference to numbered areas of Fig. 1. The times and dividing lines were approximate, with image of the dodging medium out of focus and moving slightly. Close accuracy was considered unnecessary. No two of a dozen prints made for exhibition came out ex-



"Morning Light"

H. W. Wagner

actly alike. First, an entire sheet of 11 x 14 soft buff paper was allowed an exposure of 20 seconds. Then portion 1, up to the water's edge, was shaded with a black envelope bent to conform roughly with the water line, until 30 seconds more had passed. Next a black envelope with a nearly round hole in it was held between the lens and easel, until the paper had received 30 seconds more of exposure from the light which represents the veiled sun. Sky above the sun was given more time for composition effect, and a diffusion disc sometimes was placed over the lens for sky exposure, but these controls are extraneous to the main story. For control of gross contrast, then, total relative exposures were about as follows:

Portion 1, 20 seconds

Portion 2, 50 seconds

Portion 3, 80 seconds

The result is reproduced as "Morning Light." Four times, at least, salon juries in different countries have rated it highest of four prints submitted by the maker.

Figures 3 to 5 supply a semi-technical explanation of the straight and dodged prints. Again there is no pretense of exactitude, only an effort to show how the control works. No numerical values are attached to the scales because no light values were measured. Each numbered section on a diagram is estimated to correspond roughly to an area numbered the same on Fig. 1.

For the information of the reader who is technically minded, the light intensity or exposure scale on Fig. 3 (negative record) is logarithmic, while the density scale is linear. All scales on Figures 4 and 5, representing the prints, are logarithmic.

Curve A of Fig. 4 tells the story for the print of Fig. 1 which is flat and muddy. Very gentle slope of the line means little contrast or difference between adjacent tones. Curve B stands for the print of Fig. 2, in which the beach (portion 1) is lost in flat blackness, represented by part 1 of curve B. Likewise the strongest high light in the sky is lost in flat whiteness at the other end of the scale. Part 2 of curve B is steep enough for satisfactory detail contrast, as rendered in sections of water and sky.

All three prints were made on soft papers. The print of Fig. 1 is softer than that of Fig. 2 because it purposely was given longer exposure and shorter development. The same kind of comparison could have been shown by using soft and contrast papers, with normal treatment for each.

The three curves on Fig. 5 illustrate the accomplishment of dodging—not an extension of the density scale, but triple utilization of the paper scale. Each curve is about as steep as the middle portion of curve B, Fig. 4, which means certain degrees of desired detail contrast throughout all areas. Each major portion is given an exposure suited to the paper: then exposure is cut off from that portion, preventing the curve from running into too much flatness at the shadow end. In the present case there are three stages of exposure. In other cases there is no limit to the necessary number of stages which may be controlled, except for the patience of the printer.

The final print falls far short of repeating the enormous range of light values in the subject. It does not even pretend to render each tone in proportion (practically no photograph ever does that), but it does exhibit some success in the effort to overcome gross contrast.

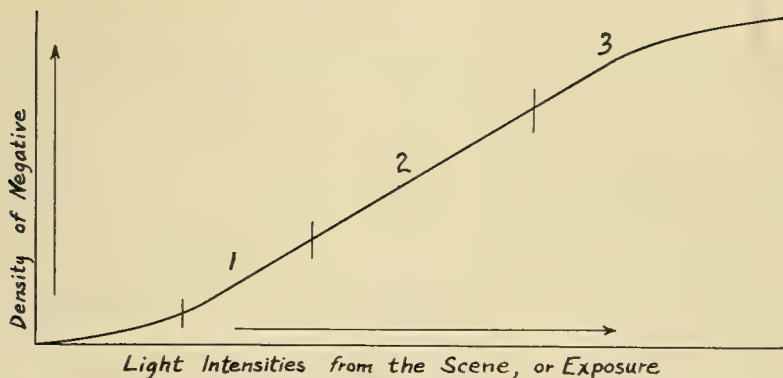


Fig. 3. Approximate diagram of the manner in which the scene was recorded on the negative. Soft development is indicated by a slope (gamma) of less than unity.

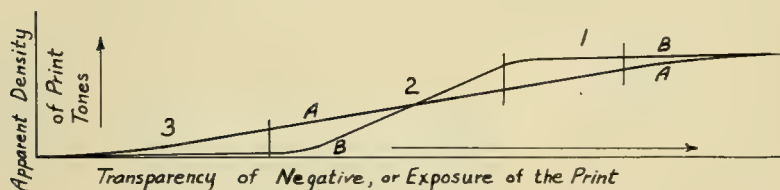


Fig. 4. Line A represents the tones printed in Fig. 1, B those in Fig. 2.

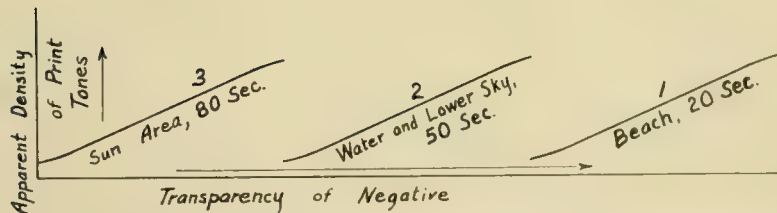


Fig. 5. Triple use of the paper scale, resulting in the final print of "Morning Light."

Unique Scale Makes Copying Easy

Nestor Barrett

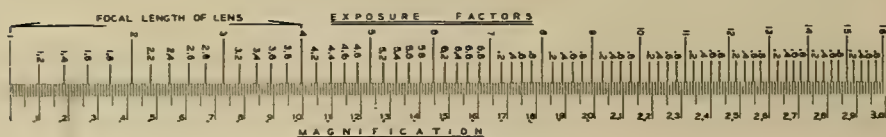
ONE of the most vexing problems which can confront any photographer with a lot of copies or lantern slides to make or a number of still life set-ups to shoot, has been to figure out the changes in exposure required as the camera is moved to and from the subject matter in order to maintain the same size image on the ground glass with different sizes of copy.

The scale accompanying this article, the invention of Lester H. Brubaker, a California scientist, eliminates all trouble and guess work and results in remarkably uniform negatives. It can be adapted easily to any camera from the simplest to the most expensive. Although it may look complicated at first, it is really extremely simple to use. It takes a great deal longer to tell how to use it than it will take you to figure it out, and a few minutes spent in study will be repaid by hours saved in working time. If the following exact instructions are observed no difficulty should be experienced. So here is what you do.

First copy the scale printed in this magazine on process film or any film which will give good contrast, filling the length of your film with the length of the scale. Develop the film for contrast.

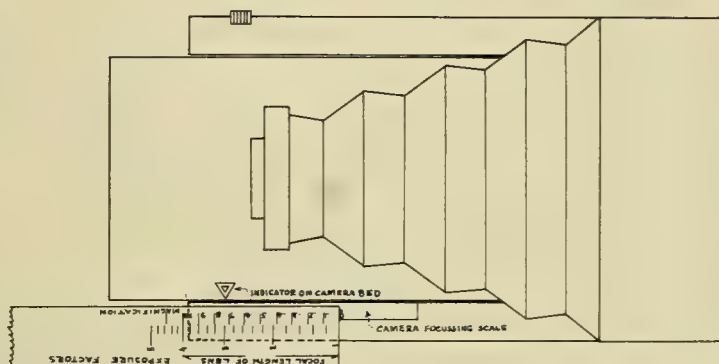
Next put the negative of the scale (after it's dry, of course) in your enlarger and project it on the enlarging easel *until the length between the ends of the arrows, marked "Focal Length of Lens" on the scale, is exactly the same length as the focal length of the lens on your camera.*

If you do not know the focal length of the lens on your camera it is simple to measure it. Many lenses have the focal length marked on their barrels. If yours has not, remove it temporarily from the camera and insert



Photograph This.

SKETCH SHOWING METHOD OF USING COPYING SCALE



NESTOR BARRETT
P.O. BOX 306
San Jose, Calif.

a stick or small rule through the lens opening until its end touches the ground glass or film carrier on the back of the camera. Before doing this be sure that the bellows are pulled out to the infinity mark on the footage scale. Now mark on your rule or stick the spot where the leaves of the lens diaphragm touch it. The distance between this point and the end of the stick touching the film carrier is the focal length of the lens.

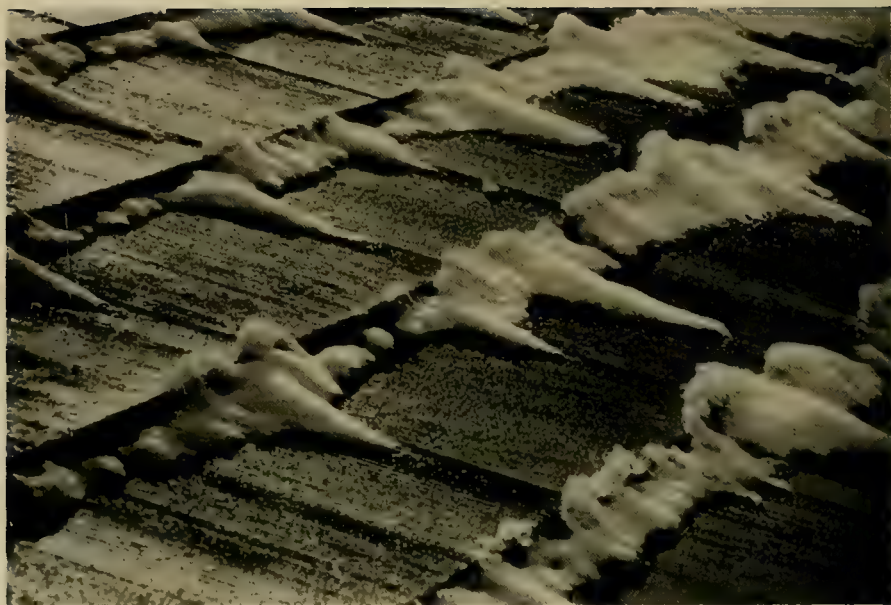
Now, having your scale negative projected so that the arrows are the same length as the focal length of your lens make a print on a good, glossy, contrasty paper of the scale. When dry, mount the print on stiff cardboard and shellac or cover with cellophane.

You are now ready to use your scale.

Set up the copy you wish to photograph, illuminate it as you wish, and focus your camera on it until you get the copy the size you want it to be on the finished negative. Do not worry about your distance away from the copy or how far your lights are away, the scale will take care of all that.

After you decide you have the image you want on the ground glass read the exposure required with any reliable type of exposure meter such as a Weston, G. E., or Bewi. Make a note of the exposure required.

Now place your scale on the camera bed so that the lower or "l" end touches and lies along the infinity mark on the bed. Sometimes this place is marked "inf." and occasionally the symbol " ∞ " like a figure 8 lying on its side is used. Now note where the little arrow on the sliding part of the camera bed points on the scale marked "Exposure Factors." The number you read here is multiplied by the exposure you originally read with the meter and this product is used as the correct exposure. That is all there is to it.



"Roof In February"

Alice Benedict

Baltimore International Salon

The scale also contains another column called "Magnification" which gives a direct reading as to the number of times the copy being used is being reduced or magnified. This is especially useful to photographers who make nature studies, allowing them to note the exact proportion to natural size their work is being done.

Now let us take an actual example and see how it works. We will suppose that the lens on your camera is a $5\frac{1}{4}$ " focal length. You throw the image of the scale on the negative you have made on the enlarging easel until the distance between the points marked one and four equals $5\frac{1}{4}$ " when measured with a rule. Now you print, develop and mount your scale as indicated.

You have set up your copy and have it the size wanted on the negative. You read the exposure on your meter and find it is one-fifth seconds at f:32. Now you set the scale on the infinity mark and look opposite the pointer on the camera bed and find it points to 3 on the Exposure Factor scale. You multiply one-fifth second by 3 and get three-fifths seconds, the correct exposure time to use. Or you can use a one-fifth second exposure and open up your lens stop half way between f:22 and f:16 which will also give you three times exposure

If you want to know what the size of the image you have on the ground glass is compared to the actual object being photographed, you look at the scale marked Magnification and find that the number opposite three is .73, or your image is approximately $\frac{3}{4}$ natural size.

Photography Of Pyrotechnics

Albert F. Smith

ONE of the fascinating branches of photography which seems to be very much neglected is the photography of displays of fireworks. Home displays, as a rule, are photographically uninteresting, but the large aerial spectacles such as those produced by the cities on the Fourth of July, Columbus Day, etc. make excellent photographic material.

Many amateurs do not attempt this type of work because they believe that large aperture lenses are a requisite. But due to the unusual intensity of light produced by aerial bombs and skyrockets, practically any camera with a lens better than $f:11$ and a shutter with a bulb or time setting is capable of producing good pictures. I personally have used both a Graflex with a K. A. $f:4.5$ and a Pupille with a Schneider $f:2$. I have used them at full aperture and at various other openings, even as small as $f:8$. In the case of cameras with small aperture lenses, however, high speed panchromatic film is a necessity.

It is best to rest the camera on a tripod. The usual method of allowing the three legs to rest on the ground is quite satisfactory if the camera is pointed at the spot in the sky where the bomb is most likely to burst. This method, however, allows no flexibility, and many beautiful shots are lost because the rocket has burst just out of range of the camera. I use a method which allows movement enough to follow the rocket and at the same time provides sufficient steadiness. Two legs of the tripod are extended to a suitable height and placed to the right and left of the photographer. The third leg, which would normally go to the front or to the back, is left closed and the camera rested against the photographer's body. The adjustment for altitude is then easily made by the operator's moving his body slightly forward or backward without moving the position of the tripod feet; and if the camera is not screwed too tightly to the tripod, it may be turned to the right or left, thus allowing a free coverage of a large amount of sky. With cameras using a direct vision finder it is best (unless you are very short or have a tall tripod) to kneel and to adjust the tripod for that position. With reflecting type cameras and those having a brilliant finder the best position is, of course, standing with the camera at chest level.



Figure 1.

The one disadvantage with this method is that the operator must hold his breath and stand perfectly still for one or two seconds during the exposure. Failure to do so will result in blurred pictures in which the lights on the ground are greatly elongated. This effect is shown in Figure I. Notice also in Figure I that although the lights on the ground show that movement has taken place, this movement has not affected the picture of the rocket itself. But holding one's breath is not a hard task, and pictures may easily be produced showing even more sharpness than Figure II.

The time of exposure for this type of work seems to make little difference, as long as the shutter is open while the skyrocket or bomb comes to its full brilliance.

Exposure with the between the lens shutter and a cable release presents no difficulties. The only caution is to keep the camera absolutely still while the shutter is open.

Exposure with a Graflex or camera equipped with a focal plane shutter is a bit more complicated. The usual method is to trip the mirror, leave the curtain open, and hold the dark slide or a piece of opaque material in front of the lens before and after the exposure which is made by merely removing the dark slide or opaque material from in front of the lens. But this forces the operator to guess at aiming the camera and produces many pictures with the subject partially off the film. The method I use with my Graflex is to set the curtain open, and adjust the mirror so that it will swing up without



Figure 2.

engaging the catch which moves the curtain. Then the dark slide is removed and the camera is ready for action, as there is now nothing but the mirror between the lens and the film. The bomb is followed in the ground glass finder, and when properly spaced for the picture, the release is pressed, moving the mirror out of the way. After exposure, a quick flip of the finger brings down the mirror, effectively stopping the passage of light to the film, film is changed and the camera is again ready for action. This method is much faster than the old one, and many pictures may be made in fairly rapid succession if desirable, and of objects in varied portions of the sky.

It is not always necessary to change film between shots. Many splendid pictures are made by double exposure. Figure III is an example of this kind of photography. It is more difficult however, as the two different objects must be placed in the correct portions of the film or very peculiar effects are evidenced. For instance, if attempting to photograph a ground display and an aerial bomb on the same negative, extreme care must be taken that the aerial bomb is high enough so that only sky is included in the picture or else the ground line will be shown twice in the final print. And if the aerial bomb is located too close on the film to the ground display, a design similar in appearance to a mushroom is produced. Unless the photographer is very careful it is best for this type of photography to place all of the tripod legs on the ground and hope that two or more bombs will explode in the right places within the range of the camera.

A few general precautions may be helpful at this point. First of all, do not be misled by the colors. The camera does not show differences in



Figure 3.

color and shots which may appear to the eye to be quite beautiful are nothing but a series of lines on the paper. Judge your subjects on form alone, and you will save many films.

Figure III shows a fault which is rather common in double exposures. In order to record the fiery tail and the explosion of the sky-rocket, the shutter was left open for several seconds. In this somewhat long exposure the ground display had too much time in which to act upon the film, thus becoming over exposed. Nothing much can be done about it except to keep this fault in mind and avoid such pictures.

Another suggestion should be given concerning extra large bombs. In almost every exhibition there are a few gigantic rockets which are so imposing that the photographer feels that he must have a picture. But the difficulty is that these large ones occupy so much space that they almost always run off the film and leave only the center of the bomb recorded. Such pictures are usually unsatisfactory.

Development of firework photographs is no different than any other. But as a hint for printing, it is suggested that prints be very dark. Gray prints do not look at all pleasing. The sky should be of a rich, deep black in contrast to the brilliant white of the explosives. Glossy paper is excellent for these prints.

As yet, very little has been done in this country in this very interesting field, and it is hoped that these suggestions will help to arouse interest in this type of photography and will aid in the production of a greater number of prints of high quality.

Still Photography And The Concept Of Movement

Walter Bunnell

(Continued from June issue.)

THE photographer now, in addition to his other duties, assumes the role of psychologist. There is a moment when he realizes that a human individual is a responding mechanism—and as such has a physiological apparatus that is capable of differentiating in a thousand ways between the stimuli that impinges upon him: the response thus subtly differentiated being visible in his expression and the pose assumed by his postural musculature under impulse from the autonomic nervous system. Further, the photographer understands that when a person, even an experienced model, sits before the camera, he or she is in a highly suggestible state—subconsciously eager to receive stimuli and to give more of a personal color to his responses than in most other situations of everyday life. Moreover, the photographer knows that it is for stimuli from him that the subject waits. If these stimuli when given seem favorable, then they will be responded to positively. The important thing to notice is that in the making of portraits we have a curiously fragile stimulus-and-response situation where the behavior of the photographer is an important part of his technique—because the sitter, in a suggestible state, is depending upon him for cues as to his own behavior.

Under such circumstances, the scientific knowledge of human nature in the possession of the photographer can hardly be too extensive. If he has this knowledge, and, further, if out of it he is able to offer stimuli to the subject producing a response from the subject's reservoirs of self, the picture (as the work we have done demonstrates) will contain a type of movement that immediately attracts and holds the attention of the spectator: he perceives the picture as an art object, in the sense that modern photography is giving to this term. The movement in the picture will be comparable to that observed in the motion picture close-up, or the view of the person asleep, when any gross action would be interpreted as interfering with what we are interested in watching: the nuance of life.

In presenting stimuli to his sitter, what response should the photographer endeavor to elicit? We have said that the response should partake of



Figure 6.

the innate self of the subject, but this is not definite enough. The stimuli should elicit from the subject precisely a revelation of his *characteristic moment*. What this term indicates is the one facile moment when there is brought to the surface of the individual—apparent in his expression and postural mien—a clear integration of this innate self or some exemplary part of it. This is the characteristic moment of the individual: and a camera exposure made by an experienced and able photographer at such a time will result in an effective portrait embodying movement in every sense, attention-attracting and authentic to the spectator.

Thus, from the subjective standpoint what the photographer seeks to do is to present stimuli to the sitter which elicits a response from him revealing his characteristic moment. The biological and emotional-intellectual movement previously referred to will then permeate the entire being of the sitter. The question, Can the camera possibly register such movement? is an important one. Upon choosing a sitter at random (an untrained model) and entering with her into a stimulus-and-response situation, with the camera at hand to record results, we secured the portrait reproduced in Fig. 6. A study of this portrait shows life movement in the expression and pose of the girl; and we think of her characteristic moment as one of ingenuousness and a trust in the world that may be slightly tinged with foreknowledge of an impending initiation into its less callow mysteries.

As a matter of case history, let us refer to what occurred during the making of this portrait.

Miss D. came to the studio one afternoon after school. She was accompanied by two friends of her age. The sitting as far as she knew had no

experimental side—it had been arranged by her mother a few days previously in the ordinary course of studio business.

While her friends remained in the outer office, Miss D. entered the camera room and was met by the photographer. He recognized that she was at an impressionable stage of adolescence—a time when more or less vague dreams mean much to a girl, and tall dark movie actors are the heroes toward whom many a secret wonder is directed.

The following conversation ensued (unimportant portions are omitted).

The photographer has seated Miss D. on the posing bench. She is of a somewhat flighty temperament. Her attention seems given to the voices of her friends, heard faintly from outside.

Ph.: You just came from school today, didn't you?

Miss D.: Yes.

Ph.: How was it on this day of all days?

Miss D.: Day of all days? What do you mean?

Ph.: I thought maybe something important happened at school today.

Miss D.: Not a chance.

Ph.: All those pupils and all those teachers and nothing happened. That's too bad.

(The conversation languishes).

Ph.: What was the last class you had today?

Miss D.: Oh, a study period.

(During this time the photographer has continued his preparations for the picture).

Ph.: What were you studying?

Miss D.: Oh, for an English theme.

Ph.: I suppose there are some things in English you like.

Miss D.: Yes, the teacher. (She laughs. She is not tart—merely likes, perhaps, to wisecrack).

Ph.: Well, there are lots of other interesting things in English.

Miss D.: For example?

Ph.: Of course, you may not like it, but some people think that poetry . . .

Miss D.: The Ancient Mariner . . . huh . . .

Ph.: Or—(here he directs her into a pose)—something from Browning. Did you ever read any of Browning's poems?

Miss D. (held in the pose): No.

Ph.: In the old fashioned day they used to think his poetry wasn't good for young girls like you. (This is a direct hit to Miss D.'s inner consciousness). I remember some lines that go like this. The poem is called "A Pretty Woman." (He quotes):

And in turn we make you ours, we say—

You and youth too

Eyes and mouth too,

And the face composed of flowers, we say.

The proper stimuli have thus been presented by the photographer and the sitter makes the desired response—revealing transitorily her characteristic moment. The exposure is made.

An unlimited variety of such stimulus-and-response situations are available to the photographer and his successive sitters. It is evident that

in such situations the flow of personality between the photographer and the sitter is the important factor, the camera merely being at hand as a recording instrument. We may add that experience has shown us it is inadvisable for the photographer to admit the sitter to psychological equality with him in these situations—the photographer must retain the dominance, establishing between the sitter and himself some such rapport as, in a more extreme case, runs between the medical hypnotist and his patient.

Summarizing the above, we see that movement—of the type that is biological and emotional-intellectual—may be elicited from the sitter as a response to the certain definite stimuli presented by the photographer. At the crux of this movement—at the characteristic moment of the sitter—the exposure is made. Thus the essential quality of the object photographed is put into the picture, and the picture acquires authentic art value.

At this point let us consider a mode of behavior in this connection which “artists” in studio portraiture have long advocated. It will furnish us an obverse to our coin of investigation in this connection. According to the idea of these people, the sitter must be photographed unawares. This is supposed to eliminate any unnaturalness in pose and expression.

A method of photography such as this falls into the trial and error category, and seems unworthy of a technician otherwise trained in preciseness. Such a worker can hardly conceive of making say thirty pictures of a subject in order to secure two or three that possibly are good ones—that is, thirty pictures made at random when the subject has been deliberately placed beyond the control of the photographer—and this at a time when everything favors the fullest use of the latter's directive abilities!

Note the result in the portrait of using such a method. Facility in expression and pose is actually the exception rather than the rule. Often there is not only postural muscle tenseness but also an ineradicable conscious strain caused by a momentarily ungraceful position. But this is not the least of the grievous errors to be charged up to this method. All graciousness and harmony of life movement are usually absent, because however “natural” the sitter may have felt at the moment the exposure was made, the camera in taking the picture has frozen him into a perpetual grin or a sly gaze or whatever the expression is. Freezing the movement of the sitter in a picture is obviously the antithesis of putting this movement into the picture. What has happened is that the camera has slipped up on the subject, and said “Boo!” and taken his picture just a fraction of a second before he recoils in alarm. What integration is there in this? What control? As well to sneak in the darkroom and catch the developer at the right temperature, instead of heating it or cooling it as required by one's formula.

In direct contravention of such ideas, a variation of the stimulus-and-response situation previously described was worked out—where the sitter would be carefully prepared for the moment of making the exposure, and know exactly when it occurred. Our confidence in this procedure lay especially in that we felt our knowledge of human nature—that is, of the object to be photographed—was at least commensurate with our knowledge of lenses, exposure, film, etc., all of which latter remained under our control: leaving the inference, why not the sitter also? We felt we could control her in this instance through securing her cooperation by an appeal to the mature understanding which on occasion can run from one adult to another.



Figure 7.

Fig. 7 shows a portrait made by this method. Following is a condensed case history of the sitting:

The photographer recognized that Miss L. was an adult who probably over a period of time had achieved a lucid conception of herself as "a woman of better-than-average appeal who moves in the world doing the best for herself she can." She was a dental nurse. Shortly after entering the camera room, Miss L. admired some flowers in a bowl, and she and the photographer conversed easily concerning them. Miss L. then took her place on the posing bench. She seemed slightly self-conscious but took a pose well.

After two exposures had been made, the following conversation ensued:

Ph.: You know, if you wanted to, we could take a picture that you'd like better than any you ever had made.

Miss L.: How?

(The photographer goes up to her. Notice now how important it is that his personality shall be in no wise repellant to her. A friendly status exists between them, fostered by the conversation at the flower bowl, and also by a constant tacit obeisance he as a man has been making to her femininity).

Ph.: You could do it. I would simply stand over there at the camera and be your picture-taker—take the picture at the right moment.

(Miss L. finds the suggestion a novel one and is intrigued by it).

Miss L.: What would I have to do? Go into one of my big moments or something?

Ph.: Listen. Suppose that I or any other photographer in the world should say to you: You've got all the qualities it takes to make a good picture. I'm simply here to take the picture you create for me, when you are ready to have it taken. How do you want to look, how do you want to pose? You can get a certain gaze in your eyes. What would it be your dearest desire to have your picture look like? I mean really to photograph *you*. (Contemplatively). I should think a girl would certainly like to have a picture of herself like that. You know, it's usually considered in tradition that women really know how to convey an expression, a pose: they have a sort of flair for it.

(When written down, this possibly seems a little extravagant. Suffice it to say that at the time, in the situation, with proper tone and modulation of the voice, it sounded apropos. Miss L. responds. The photographer continues).

Let's try it. I'm going to stand there by the camera. And you . . . let me see you as, more than any other way, you'd like to have a picture of yourself be at this moment.

(The photographer returns to the camera. He watches Miss L. in kindly fashion as if truly admiring her. She seems disorientated for a moment, then gathers herself together, keeps her eyes down, then raises them to look at the camera. At this moment, it seems to the photographer, a piercing clearness characterizes her expression and pose. He makes the exposure. Miss L. is undoubtedly "stirred from within." This is a genuine stimulus-and-response situation, a variation of the type first described. The subject has remained at all times one of the controlled items of the photographer's technique.

It will be noticed that the technician endeavored to do two things in dealing with the sitter: first, to compliment her so that favorable nervous impulses would be set flowing into the postural musculature; and second, to stimulate her to put forth the poised effort necessary for a successful outcome to what she was trying to do. Then she produced her own characteristic moment.

Of such as this is truly the perfected technique of the modern portrait photographer. The stimulus-and-response situation is seen to be in every respect compatible with other departments of photography. When it is used, composition may be carefully calculated. This is important when we come to consider the organization of the portrait as a picture.

The organization of the portrait consists in the proper artistic marshaling of the various factors heretofore discussed. Remembering that a human individual is the object depicted, these factors are summarized into one grand factor of Fluidity—produced by the use of the characteristic moment of the sitter on the one side of technique, and by the use of composition on the other side

Fig. 8 is a typical example of a portrait made in this manner. The composition was seen by the photographer in a certain way. The subject was placed at a prearranged spot in this composition through being told (with regard for psychology) to occupy this spot. A climax was then reached in the presenting of stimuli to the subject, at which time the characteristic moment was revealed, and the exposure made.



Figure 8.

It is evident from the above study that the concept of movement may be put into a still portrait, imparting to it a definite artistic effectiveness; which means for the most part that it attracts the attention of the spectator and holds this attention while it conveys the essential meaning the photographer put into it and intended it should convey.

Primarily, this meaning has to do with the fact of life. When, however, the photographer has reached the point where he can render conceptual movement in his portraits—render, that is, the essential quality of the objects photographed—then he is ready to venture into the problem of mood, or, as we may now call it, the *special* life meaning that is to be conveyed to the spectator. We infer here that doing this is but particularizing—mood is a particular version of the grand Universal we call life.

It was previously stated that in the ordinary definition, a still photograph is made during one moment of time, to be viewed in this one phase. It is now evident that such delimitation has been broken down. When conceptual movement is put into the portrait, it is necessary, first that several moments of time be used in the making of it (the residue from such moments being actually visible in the photograph); and second, that a definite number of moments in series be used in viewing it. In the latter instance, what happens is that the picture produces its effects successively, in series, and not instantaneously or in a single phase: holding the attention and interest of the spectator while this is being done.

Cinema Section

Edited by
William A. Palmer

High Power Projectors And Low Power Shows

RECENTLY at a meeting of an amateur cinema club, two enthusiasts were holding forth on their favorite controversy—the relative merits between 8mm and 16mm film. The 8mm champion was maintaining that black and white 8mm pictures had less grain than the comparable 16mm film. This seemed an obvious impossibility and the 16mm user was quite careful to explain technically why it was impossible. Granted that the 8mm emulsion had a little finer grain (as well as slower speed) than the 16mm emulsion, the 8mm image has only one quarter the area of the 16mm and therefore would not the extra magnification cause more graininess?

The 8mm advocate admitted that the technical arguments sounded logical but still insisted that in the 16mm screenings he saw, the grain was more objectionable than in his own 8mm pictures. To settle the argument, a comparison showing was arranged and the unofficial jury of bystanders agreed with the 8mm fan, that the 16mm pictures seemed to have more grain as well as more flicker. What was wrong?

Here is what happened: The 16mm projector was of the latest design having a 750 watt lamp and an $f:1.6$ projection lens. The screen used was 30 x 40 inch, glass beaded. The 8mm projector was of the same make having a 200 watt lamp. The picture size was about 20 x 30 inches. The 30 inch picture from 8mm film with a 200 watt light gave a very pleasing picture with adequate illumination while the 750 watt lamp in the 16mm projector with the high aperture lens just "burned up" the picture with such intense illumination that all the defects of grain, dirt, and scratches showed up very plainly. The 16mm projection had perhaps ten times the brilliance of the 8mm, far too much for the size of picture thrown.

An industrial film producer was telling us of an experience along a similar line. The first print of a new picture was sent to the head office for approval and the word came back that the print was far too light, and that a darker print should be made and sent back at once. This was done, the next print being just a little darker. Soon a telegram came saying that the latter print was far too dark. This didn't seem logical to the producer, for there was not a great deal of difference between the two prints. On investigation he found that although the two prints

had been reviewed on the same projector, the first lighter print had been shown in a small office on about a three foot screen while the darker print was reviewed in a hall with an 8 foot picture.

With these episodes in mind, we made a little investigation at the various photographic stores. In five prominent stores, not one had a screen more than 40 inches wide in the demonstration-projection room. Yet all were equipped with the latest 750 watt 16mm projectors with wide aperture lenses. We inquired of the dealers about the screen sizes ordinarily purchased by home movie makers and found that the 36 x 48 inch size was the most popular with 16mm workers, with the 30 x 40 inch size coming a close second. The 52 inch screen, while popular with industrial film users, cannot be used in the home very often because it is difficult to find a 25 foot throw in the average living room. The dealers also informed us that almost invariably a purchaser of a new 16mm projector selects a 750 watt lamp and the widest aperture lens regardless of the picture size he intends to use.

Reminiscing, we recalled that just a few years ago manufacturers were advertising projectors with 250 watt, 50 or 20 volt lamps as super projectors for auditorium use with pictures ten feet wide. Certainly these machines ought to have sufficient illumination for the ordinary picture sizes used in the home. A little comparison projection with one of these older machines and a new 750 watt model showed the rather startling fact that the weaker projector actually projected the same picture on a 48 inch screen to make it appear to have a better quality than with the higher illumination. The brighter picture was not glaring or hard on the eyes, for it still was not nearly so bright as good daylight, but the defects of the picture were very much more apparent. Not only that but the newer f:1.6 projection lens would not focus a critically sharp image over the entire screen area. If the center was made sharp, the edges were slightly fuzzy and vice versa. However, the same projector and lens would give a very satisfactory image on an 8 foot screen. Similar tests in running color film on the two projectors did not show as striking a difference in the effect of illumination levels. The 750 watt projection was still too much, but the 250 watt machine could stand a little more. The effect of non-uniform focus over the picture area with color was the same with the high aperture lens and a further point was noticed—that the lens would have to be re-focussed frequently with different rolls of film and when color and black and white were projected alternately.

Match Projector Lamp to Screen Size

The above would seem to indicate that manufacturers are slipping and that they don't make projectors like they used to. This, of course, is not true, for the new projectors have finer, quieter mechanisms with more efficient optical systems. The trouble is that the manufacturers as well as the dealers fail to recognize that they are making and selling projectors, equipped for showing ten foot pictures in a large hall, to customers who use a maximum picture size of four feet. The projectors will serve perfectly for the smaller picture sizes if properly equipped as to lamp and lens. As a guide to what this equipment should be we present the following table of picture sizes and lamp wattages recommended. This is not a positive classification because different makes and designs of projectors have different optical efficiencies and therefore will give different picture brilliancies with the same wattage lamps.

Recommended Lamp Wattages for Various Pictures Sizes

16mm Projection

<i>Size of Picture</i>	<i>Lamp Watts for B & W</i>	<i>Lamp Watts for Color</i>
30" x 40"	250-300	400
36" x 48"	400	500
4' x 5'	500	750
6' x 8'	750	750 with f1.6 lens
8' x 10'	1000 with f1.6 lens	1000 with f1.6 lens

Note: The above data is for lamps operated at their rated voltage.

This table gives the impression that one should have a whole case full of different projection lamps to serve for different conditions. This is hardly practical but one can have the size lamp that will best fit his ordinary working conditions and then another spare, of the highest wattage that his projector will take, for the larger shows. If one is apt to use both color and B & W films, it would be well to install the lamp most suitable for color.

Notice too in the above table that the high aperture lenses are not recommended for picture sizes under about eight feet. The reason for this is the focusing difficulty mentioned above. It is not that the lenses have inferior definition or do not cover the picture area properly, but merely the fact the shallow depth of focus of these lenses comes into prominence at short working distances. Film has a habit of curling slightly in the aperture of the projector so that it is seldom in a perfectly flat plane. When throwing a picture 30 to 40 feet, this lack of perfect flatness can be handled by the big lenses, but at closer distances the definition is not so good over all as the cheaper lenses with apertures of around f:2. The fact that different types of film or different rolls may have slightly different amounts of curvature, often makes a re-adjustment of the focus of the big lenses necessary. (Of course, if a duplicate film is spliced in with an original so that the emulsion changes from one side of the film to the other, the focus will have to be changed with any lens at all distances.)

Other Ways of Changing Brilliance

There are other ways of altering the brilliance of the projected picture other than changing lamps. One way is to dim the lamp by means of a rheostat. The lowering of the brilliance of a high power lamp by means of a resistance introduced in series with it will increase its life many fold, but unfortunately the color of the lamp becomes very yellowish and makes it very poor for color film projection.

A more practical method of lowering the brilliance of a lamp for small pictures is by means of filters placed over the projection lens. These must be of a neutral shade for color film but for black and white may be of some tint if desired. Such filters can be the glasses removed from an inexpensive pair of driving goggles which can be purchased with different densities of neutral or colored tints.

Another even simpler method is by placing apertures of different sizes over the projection lens, thereby "stopping" it down. This method has the advantage too of increasing the depth of focus and eliminating difficulties of sharp focus over the entire picture area. The apertures of different sizes can be put into a cap something like a pill box cover that will just fit over the lens. This is a logical procedure to follow with a high aperture lens when there is difficulty obtaining a critical focus over the entire picture area.

Still another method of tempering the light output for small pictures is by the use of wire netting or gauze over the condensing lens of the projector. In some makes of projectors, this can be done very simply by fitting the wire mesh (ordinary copper window screening is good) into the mount which was originally intended for an auxiliary condenser for the old Kodacolor film. If one piece of the wire mesh does not cut the light down sufficiently, a second piece can be laid over it with the mesh running at a different angle.

All the foregoing advice refers to 16mm projection and no consideration has been given to 8mm for the simple reason that the problem of too much light seldom comes up with this size film. The general principle of fitting projector illumination to screen size should be followed with 8mm, however, and the projectors with low wattage lamps should not be forced to project too large a picture.

To the prospective 16mm projector purchaser, then, we suggest that, for all ordinary home showings with a screen of about 48 inches width, a 500 watt lamp with the ordinary projection lens of about f:2 aperture rating is entirely adequate. The purchaser should welcome this suggestion for the equipment is less expensive than a 750 watt lamp and high aperture lens. Here is one case where the more expensive equipment is not the most suitable—more money will get a higher power projector to give low power performances.

Fit Picture Size to Size of Room

While we're on the subject of projection and what is often wrong with it, we would like to mention a common error that is made. This is the procedure of projecting too large a picture for the size of room or of seating the audience too close to the screen. In general, the 2 inch lens ordinarily supplied on a projector (1 inch on 8mm projectors) will automatically give just the right picture size for an audience placed *near the projector*. Under no circumstances should members of the audience be seated closer to the screen than a point half way between the projector and screen. The following will give an indication of proper seating arrangements when using lenses of other than 2 inch focal length.

<i>Size of Picture Width</i>	<i>Audience should not be seated closer than</i>
2'	7'
3'	9'
4'	12'
5'	15'
6'	20'

Questions and Answers

Question: What is the average life of a projection bulb?

Answer: Projection bulbs are built to give an average life of 50 hours when operated at their *rated voltage*. Voltage rating vary from 105 volts to 125 volts, and the life of the lamp is altered very greatly when it is not operated at rated voltage. A 120 volt lamp operated at 110 volts will have its life prolonged greatly and will also give a great deal less light, while a 120 volt lamp operated at 125 volts will have a very short life but will give a good deal more light than at normal voltage. If one consistently has lamp burnouts at short life, it would be well to order lamps of a higher voltage rating.



"At The Smithy"

Branko Lus, Yugoslavia

Advanced Medal Print

■ We definitely feel that the first three awards this month are pictures which are clearly above the average. Each one of them deserves a first award and would probably have earned it had they not been competing against each other.

This picture impressed our jury particularly as a splendid example of fine composition. The picture is made up of two principal forms, the group on the right and the single figure on the left. These are firmly tied together by the object on which they are working. Notice how the group on the right is subdued by being shown against a dark background, and how the figure on the left gains principality because it is strongly contrasted against the background, and because of its isolation. The group on the right exhibits qualities which are indeed rare in photography—an action group that is beautifully composed. Observe that the four figures together form a compact, homogeneous unit that is interesting in itself. In other words the group functions most successfully as a whole. The central figure dominates, while the others supplement and enhance. Further, the individual figures and their actions are clear and unconfused. The eye first sees this group as a whole and as a balancing factor in the composition. Only later does it begin to enjoy the subtle details of the grouping. That is as it should be and is summed up in two words—good composition. It is worth while to note the effectiveness of the backlighting in delicately differentiating the grouped figures one from the other, without disrupting the unity of the group.

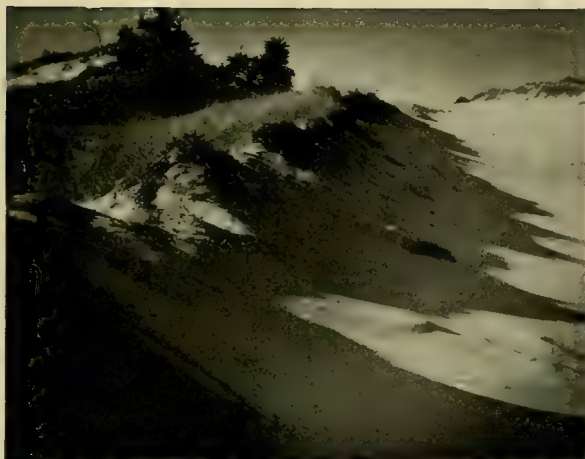
The picture's shortcomings are all technical ones. The print is muddy, lacking both brilliance and luminosity. The retouching has not been skillfully carried out.

Data: 11 x 14" bromide print. Prints may be obtained at the price of \$6.00 upon application to Camera Craft.

Second Award
Advanced Class

We wish that each of our readers could see the actual print of this picture for only then can its beauty be appreciated. The luminosity of the print, the superb rendering of sunlight and shadow is truly remarkable. It is easy to see what dull subject matter this would be were it not brought to life by the cast shadows which create such an attractive distribution of light and shade, and by the fact that the quality of the light itself is so beautifully brought out through skillful technique. The technical data reveals that Mr. Pease was well aware of his focussing problem. He is certainly correct in placing his sharpest focus on the hummock that constitutes the center of interest, and also in using the swing back to make the left foreground as sharp as possible. We are only sorry that he did not stop down further to improve the definition in the right foreground. Two very minor corrections could bring about slight improvement. The bright patch of sand in the upper left could be subdued, and by trimming just a little the topknot on the tree which cuts the upper edge of the print could be eliminated.

Data: Zeiss Ikon Ideal B; $5\frac{1}{4}$ " Zeiss Tessar; 1/25th sec. at F:11 on E. K. Portrait lens, in Pyro; Agfa #5 filter; 5:30 P.M. in August; back of camera swung to help bring over left foreground into focus; 11 x 14" print on E. K. Vitava Opal E Rough Matte, in 1922 1:4, with extra bromide.



"Dune Crest"

*D. Ward Pease
Chicago, Ill.*

Third Award
Advanced Class

We often suspect that the great majority of photographers fail to fully appreciate the very great importance of selecting the camera position with extreme care. Of course, in order to select the best camera position one must be able to visualize the finished print and have a clear idea of what he is trying to put into it. For example, this scene and scenes very similar to it, have been photographed any number of times, yet very few photographers have succeeded in getting a composition that is anywhere near as good as this one. Notice the beautiful spacing of the poles, the satisfying way in which the reeds fill the foreground area establishing aerial perspective, and particularly the lovely relation between these foreground elements and those in the background. All of these desirable conditions have been obtained merely and simply by selection of the proper camera position. The ability to move the camera, is the one element of control which is always available to the photographer. The serious worker should carefully study this aspect of his instrument until he can instantly visualize all the changes which can be brought about in a scene by shifting the point of view. Otherwise he will often fail to make the most of his opportunities.

Data: 4 x 4 cm. Rolleiflex; F:3.5 Tessar; 1/50th sec. exposure with Lifa #1 filter; developed in M.Q. Borax; Duto diffusion screen; 11 $\frac{1}{4}$ x 11 $\frac{1}{4}$ " print on Agfa Studio normal.



*"Veneolig St. Morio
della Salute"*

*Peter Kocjancic
Jugoslavia*



"Russian Traveler"

Axel Bahnsen
Yellow Springs, Ohio

Fourth Award
Advanced Class

■ This is fine clean photography; the lighting is well chosen, and the head is nicely placed in the picture space. We would like to discuss two minor points which might bring about a slight improvement. First, it is quite plain that the necessary intention here is to concentrate interest very strongly in the face. Are we not partially defeating that objective by permitting our strongest highlights to appear in the headgear at the very top of the print? We think so and consequently would subdue the brilliance of this area considerably. Second, profiles are attractive in great part because of the smooth clean flow of line which they present. We also know that it is almost always best to show what we show of physical objects definitely and without ambiguity. Suggestion should be to the mind and not to the eye. Is it not therefore a mistake to show such a tiny bit of the eye on the far side of the nose? This could have been corrected by turning the head slightly or by adjustment of the camera position.

Data: 11 x 14" bromide print.



"Double Bases"

Dorothy Kniss
Chicago, Ill.

Fifth Award
Advanced Class

■ We can see that this picture has a certain striking quality to it and think that the idea of the picture is good, but our own enjoyment of it is spoiled by several things which bother us. We will confine our remarks to three points. First, the picture lacks a base. It seems to us to appear arbitrarily chopped off at the bottom. Second, we feel that the largest figure needs more space in front of it when one considers that it is facing to the right. It now seems jammed up against the edge of the print. Third, the masonry elements which form an arch over the figures are without solidity, without any feel of the third dimension. They appear to be all on the same plane. So far as we can tell from the picture this material might be only stripes painted on a wall.

Data: Leica; Summar lens; $\frac{1}{8}$ th sec. at F:2.8, on Agfa Finopan; 11 x 14" print on Defender Velour Black.



"Bobbie"

*Chas. Winkelman
Richmond, Ind.*

Amateur Medal Print

We like the simplicity and sincerity of this attractive little baby picture. The head is well placed in the picture space, and in general the lighting is good. We could wish that there were some suggestion of highlight on cheek and forehead on the shadow side of the face. These would of course need to be very faint, but would nevertheless contribute a great deal toward rounding out the head. The highlight on the nose is just a bit too strong because it commences to destroy the structure of the nose. Notice that you have to look twice to really catch the true form there. In dealing with chubby faces the photographer must always carefully watch the outline of the cheek on the highlight side of the face. There is always a tendency toward exaggerating this contour in relation to the curve of the cheek on the shadow side. The head must be turned away from the camera enough to overcome that tendency. Notice in this picture that the baby's right cheek appears to protrude just a little more than it should when seen in relation to the other cheek. In fairness to Mr. Winkelman we should point out that his print does not show the graininess which is apparent in our reproduction. This is brought about by making the reproduction larger than the original print.

Data: $2\frac{1}{4} \times 3\frac{3}{4}$ " R. B. Graflex; $5\frac{1}{2}$ " Kodak Anastigmat; $1/35$ th sec. at F:6.3 on Agfa Superpan Pack, in D-76; photoflood lighting; $3 \times 3\frac{3}{4}$ " print on E. K. Vitava, in Agfa W-5, sepia toned. Prints may be obtained at the price of \$7.50 upon application to Camera Craft.

Second Award

Amateur Class



John H. Lohman

San Francisco,
Calif.

grass which has caused a blur in the lower right should have been removed before making the shot. The difference between a good photographer and a fair one is that one has learned to see and eliminate such things as are mentioned above before the picture is made. One learns to do this by carefully studying each shot before clicking the shutter.

Data: Rolleicord, Triotar F:3.5; 1/25th sec. at F:11, on E. K. Panatomic, in Champlin #15; medium yellow filter; 8 x 10" print on Agfa Brovira Kashmir.

■ Here is fine subject matter the effectiveness of which is somewhat spoiled by minor oversights on the part of the photographer. The girl should be looking at the calf so that the picture will have a psychological unity. As things are, one wonders what in the world she is looking at. There are disturbing elements in the background. Particularly bad is the small spot of foliage which sticks up above the left ear of the calf. The structure of the calf's head is not as clearly rendered as it might be because the animal's back fills in the space between head and left ear. The

Third Award

Amateur Class



"A Few Grapes"

Johanna Heim
San Francisco,
Calif.

drummer in a string quartet—it spoils the harmony. No doubt this background was not meant to be so heavy. It is made so by the cast shadows which probably did not look nearly so strong to the eye. Had the set-up been inspected through a monochromatic viewing glass, however, this difficulty would have been instantly apparent.

Data: 3¼ x 4¼ R. B. Auto Graflex; Bausch & Lomb Tessar; exposure at F:32 with K-2 filter, by 2-500 W. Mazda lamps in reflectors; 11 x 14" print on Defender Velour Black DL in Amidol.

■ There are nice textures and good arrangement in this still life except for one thing and this serves as a good example of something that must be watched when composing such subjects. Observe the relation between the principal objects and the folds of drapery which make up the background. Is it not instantly clear that these folds are much too heavy to take their proper place in the composition? These heavy shadows and massive areas are too strong to be in harmony with the delicacy of the grapes. Such a situation is analogous to placing an overly energetic bass

Fourth Award

Amateur Class

■ This comes awfully close to being a very fine picture. It is fine if only plain ordinary "Honest-to-God" light had been used instead of light broken up into a cross-hatched pattern. There may be occasions where such light is an advantage but we cannot think of any at the moment. Such light as this fails utterly to perform its proper function of revealing form and structure clearly and luminously. Instead it destroys form and calls attention to the light source, which is something entirely extraneous to the picture. Observe how pleasing to the eye is the shadow side of the baby's face, which is without cast pattern, and then notice how disturbing is the highlight side with its cross-hatch of ugly lines that destroy the form of the face. We do hope that Mr. Keen will do this picture over eliminating the cast pattern.

Data: Kodak Recomar 18; Schneider Xenar F:4.5; 1 sec. at F:8 on E. K. Portrait Pan, in DK-76, developed half normal time; taken indoors by direct sunlight from window; 8 x 10" print on E. K. Opal P, in D-72.



"When Morning Sun Peeps In"

Arthur Keen
Red Deer, Alta., Canada

Fifth Award

Amateur Class

■ This material affords an interesting novelty and we think that Mr. Miller has handled it with understanding. He has appreciated the need for an accent point and has placed the vase very nicely to supply that need. One might wish that all-over depth of focus could have been secured. When a picture is made up entirely of design elements as is the case here, lack of definition, such as is noticeable in the lower left, is more disturbing than it would otherwise be.

Data: 11 x 14" bromide print.



"Thru A Persian Window"

C. Miller
Lakewood, Ohio

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: D. Ward Pease and Dorothy Kniss, for the Fort Dearborn Camera Club; Peter Kocjancic, for the Fotoklub Ljubljana; Branko Lus, for the Fotoklub Zagreb; and Axel Bahnsen, for the Yellow Springs Camera Club.

The following won prizes for their clubs

in the Amateur Class: Arthur Keen, for the Calgary Photographic Society; C. Miller, for the Cleveland Photographic Society, and Johanna Heim, for the Photographic Society of San Francisco.

The following prize winners have no club affiliations: John H. Lohman and Charles Winkelman.

Contributing Clubs

Bakersfield Camera Club (Calif.)
 Calgary Photographic Society (Canada)
 California Camera Club (San Francisco)
 Cleveland Photographic Society (Ohio)
 E.P.I.C. Pool of San Francisco
 Florida Camera Club (Tampa, Fla.)
 Fort Dearborn Camera Club
 Fotoklub Ljubljana (Yugoslavia)
 Fotoklub Zagreb (Yugoslavia)
 Hawthorne Camera Club (Cicero, Ill.)

Hocking Valley Camera Club (Lancaster, Ohio)
 Los Angeles Camera Club
 Muskogee Camera Club (Okla.)
 Norfolk Photographic Club (Va.)
 Photographic Society of San Francisco
 Reading Camera Club (Pa.)
 Sierra Camera Club (Sacramento, Calif.)
 Whittier Camera Club (Calif.)
 Yellow Springs Camera Club (Ohio)

STANDING OF CLUBS

Large Clubs Advanced Class

Fotoklub Zagreb	22
Fort Dearborn Camera Club.....	18
Fotoklub Ljubljana	18
Photographic Society of San Francisco..	4
Photographic Society of India.....	2
Miniature Camera Club of New York....	1

Small Clubs Amateur Class

Taft Camera Club.....	14
Calgary Photographic Society.....	8
Lancaster Camera Club.....	5
Riverside Pictorialists	4
Norfolk Photographic Club.....	1

Large Clubs Amateur Class

Cleveland Photographic Society.....	11
Photographic Society of San Francisco..	6
California Camera Club.....	5
Camera Club of Richmond.....	5
Miniature Camera Club of Oakland.....	4
Sierra Camera Club of Sacramento.....	3
Fotoklub Zagreb	3

Small Clubs Advanced Class

The Pack Rats.....	20
Denver Lensmen	14
Yellow Springs Camera Club.....	5

SUMMARY OF COMPETITION RULES

1. Open to all, amateur or professional, club member or non-club member.
2. Closing date 1st of each month.
3. Place technical data, club membership if any, selling price, and whether or not you wish to exchange on back of print.
4. No entry fees or blanks required.
5. Stamps must be enclosed for return of prints.
6. Full explanation will be sent free on request or may be seen on Page 42 of January 1938 issue.

WHAT IS YOUR PHOTOGRAPHIC I. Q.?

In the spirit of fun, and as a check up on your knowledge of photography, give yourself the following five minute quiz. The questions set forth cover a general field of photography; if your score is 90% or better it is certain that your photographic education is far above the average. A score of 80% is considered good; 70% is fair. On a score of 60% or less you should draw your own conclusions.

All ten questions are followed with a choice of four answers; all you have to do is check the correct one. Deduct ten points from a score of 100% for each question you fail to answer correctly. Correct answers will be found on page 347.

1. Which of the four famous photographers named below was recently awarded a Guggenheim Fellowship for the second successive year?

- ☐ Edward Steichen
- ☐ Margaret Bourke-White
- ☐ Edward Weston
- ☐ Ansel Adams.

2. Given a very long scale negative from which to make a projection print on bromide paper, which of the following procedures would you follow?

- ☐ Print on a short scale paper
- ☐ Print on a long scale paper
- ☐ Give full exposure and restricted development
- ☐ Give minimum exposure and prolonged development.

3. When the distance focussed upon and the aperture being used are so coordinated that everything from half the distance focussed upon to infinity is in sharp focus, the lens is said to be working at . . .

- ☐ Its best
- ☐ Its maximum aperture
- ☐ The hyperfocal distance
- ☐ Its smallest aperture.

4. Below are listed four of the most prominent American exhibitions. Check the one which is oldest and the one which is youngest in point of continuous exhibition.

- ☐ The Chicago International Salon
- ☐ The Pittsburgh International Salon.

- ☐ The Oval Table International Salon.
- ☐ The Los Angeles International Salon.

5. Listed below are the names of four men prominent in the affairs of the Photographic Society of America. Which one is now President of the Society?

- ☐ Frank Liuni
- ☐ Dr. Max Thorek, F.R.P.S.
- ☐ David R. Craig
- ☐ B. H. Chatto.

6. How many times more exposure would be required for a film with an emulsion speed rating of Weston 8 as compared to one with an emulsion speed rating of Weston 32?

- ☐ 2 times
- ☐ 4 times
- ☐ 6 times
- ☐ 8 times.

7. Below are listed the names of four One-Shot Three-Color cameras. Check those which are of American manufacture.

- ☐ Devin
- ☐ Bermpohl
- ☐ Curtis
- ☐ Vivex.

8. Which of the terms listed below best describe the principal action of Sodium Sulphite in a developing solution?

- ☐ Preservative
- ☐ Reducing Agent
- ☐ Accelerator
- ☐ Restrainer.

9. If you wished to maintain the size and proportions of an object in the foreground and at the same time reduce the relative size and importance of objects in the background, which of the procedures listed below would you adopt?

- ☐ Use a lens of greater focal length and adopt a more distant view point
- ☐ Use a lens of shorter focal length and adopt a nearer viewpoint
- ☐ Use a lens of greater focal length and adopt a nearer viewpoint
- ☐ Use a lens of shorter focal length and adopt a more distant viewpoint.

10. When a photographer says that his photograph is a true orthochromatic rendering of a scene, which of the following does he mean?

- ☐ That all colors in the scene are rendered in monochrome in their correct relative luminosities
- ☐ That all colors except red are correctly rendered.
- ☐ That he used orthochromatic film
- ☐ That he made the photograph without using a filter.

Response to "What Is Your Photographic I. Q." was unanimous approval. Only a small percentage of those commenting on the feature reported their scores. Readers are urged to report scores anonymously so that Camera Craft will have some means of judging whether the quizzes should be made more or less difficult. Average of scores reported, 73.3.—Ed.

Club Notes

Forthcoming Exhibitions

Photographic Salon at Cardiff, Wales. Address Mr. Watcyn Evans, General Secretary, Eisteddfod Office, 11 Park Place, Cardiff, Wales. Closing date June 30, 1938. No entry fee, but return postage must be prepaid. Limit 4 prints. August 1 to 6, 1938.

Paris XXXIIIst International Salon of Pictorial Photography. Address M. le Secrétaire, 51, Rue de Clichy, Paris, France. Closing date June 30, 1938. Entry fee 40 francs. Limit 4 prints. October 1 to 16, 1938.

Second Annual New Jersey Salon of Photography. Address Orange Camera Club, 1 South Clinton St., East Orange, New Jersey. Closing date July 1, 1938. Every New Jersey photographer is invited to submit not more than four prints. September 1938.

Third International Exhibition of Photographic Art in Ljubljana. Address Fotoklub Ljubljana, Levstikova ul., Ljubljana, Yugoslavia. Closing date July 15, 1938. Entry fee 5 S. francs. Limit 4 prints. September 1 to 12, 1938.

First Annual Berkshire County Photographic Exhibition. Address Exhibition Committee, Berkshire Museum Camera Club, The Berkshire Museum, Pittsfield, Mass. Closing date July 16, 1938. Entry fee \$1.00, limit 4 prints. July 31 to August 14, 1938.

83rd Annual Exhibition of the Royal Photographic Society of Great Britain. Address The Secretary, The Royal Photographic Society, 35 Russell Square, London, W. C. 1, England. Closing date July 29, 1938, limit 4 prints. September 10 to October 8, 1938.

Second International Exhibition of Photography at Luxembourg. Address Mr. Martin Dellere, 61 avenue Guillaume, Luxembourg (Grand-Duchy). Closing date August 15, 1938. Entry fee 4 belgas. Limit 4 prints. September 23 to October 10, 1938.

Seventeenth Annual "All-American Photographic Salon." Address James S. Lawshe 604 Standard Oil Bldg., 10th & Hope Sts., Los Angeles, Calif. Closing date August 20, 1938. Entry fee \$1.00, limit 4 prints. September 11 to 30, 1938.

Ninth Chicago International Salon of Photography. Address Salon Committee Chicago Camera Club, 137 N. Wabash Ave., Chicago, Illinois, U. S. A. Closing date August 24, 1938. Entry fee \$1.00, limit 4 prints. October 1 to 31, 1938.

4th International Salon for Pictorial Photography, Amsterdam. Address Focus, Ltd. Fotosalon, Bloemendaal, The Netherlands. Closing date August 25, 1938. Entry fee 2,5 florins, limit 5 prints. October 1 to 16, 1938.

The London Salon of Photography. Address The Hon. Secretary, London Salon of Photography, 5a Pall Mall East, London, S. W. 1, England. Closing date August 31, 1938. Entry fee 5s. September 10 to October 8, 1938.

Third Western Ontario Salon of Photography. Address A. E. Adams, Salon Secretary, The London Camera Club, 212½ Dundas St., London, Ontario, Canada. Closing date August 31, 1938. Entry fee \$1.00. Limit 4 prints. September 12 to 17, 1938.

South African Salon of Photography. Address Secretary, South African Salon of Photography, P. O. Box 7024, Johannesburg, South Africa. Closing date September 1, 1938. October, 1938.

The Hounslow Photographic Society International Exhibition. Address Exhibition Secretary, The Hounslow Photographic Society, 357 Whitton Dene, Isleworth, Middlesex, England. Closing date September 3, 1938. Entry fee 2/6d. September 21 and 22, 1938.

Twelfth Annual Open Exhibition of the Lincoln Camera Club. Address Hon. Exhibition Secretary, F. J. Codd, 309 Burton Road, Lincoln, England. Closing date September 6, 1938. Entry fee one shilling per print. October 6 to November 30, 1938.

Fifth International Salon of Pictorial Photography, Budapest. Address Jozsef Ferencz, rakpart 17, Budapest IV, Hungary. Closing date September 15, 1938. Entry fee \$1.25, limit 4 prints. October-November, 1938.

The Ninth International Photographic Salon of Japan. Address The International Photographic Salon, Tokyo Asahi Shimbun, Tokyo, Japan. Closing date September 30, 1938. Entry fee \$1.00, limit 3 prints. November 1938.

Windlesham Camera Club Open Exhibition. Address The Hon. Secretary, Hallgrove, Bagshot, Surrey, England. Closing date October 1, 1938. October 20 to 22, 1938.

The New York Salon of Photography. Address the Salon Committee, The Camera Club, 121 West 68th St., New York, N. Y. Closing date October 1, 1938. Entry fee \$1.00, limit 4 prints. October 30 to November 20, 1938.

Third Philadelphia Photographic Salon at the Art Alliance. Address Salon Secretary, Philadelphia Art Alliance, 251 South 18th Street, Philadelphia, Pa. Closing date October 24, 1938. November 15 to December 4, 1938.

Sixth Syracuse International Salon. Address Herbert N. Baker, Salon Director, Camera Club of Syracuse, 340 Montgomery St., Syracuse, N. Y. Closing date November 4, 1938. Entry fee \$1.00, limit 4 prints. December 4-31, 1938.

Fourth International Salon of Photography, Des Moines. Address Committee, Y. M. C. A., Des Moines, Iowa. Closing date December 15, 1938. January 1 to 24, 1939.

Dr. George C. Poundstone

Dr. George C. Poundstone, well known pictorialist, died at his home, 2506 Milwaukee Avenue, Chicago, on May 9, 1938. Dr. Poundstone was born at Grand Ridge, Illinois, February 14, 1870, and practiced dentistry in Chicago since 1902. He held the degree of doctor of dental surgery from Northwestern University Dental School and was professor of materia medica and therapeutics in that institution from 1908 until a short time before his death. Dr. Poundstone was prominent in his profession. He was a member of the National Dental Association and President of the Chicago Dental Society in 1916-17.

In the field of photography Dr. Poundstone attained a high reputation as a pictorial photographer. He was long a contributor to the principal salons both at home and abroad, and his pictures bore the unmistakable evidence of his technical and artistic skill.

Dr. Poundstone was a member and former President of Chicago Camera Club, a member of Chicago Geographic Society and Chicago Art Institute.

1938 Baltimore International Salon of Photography

The Baltimore Camera Club has concluded its season with the 1938 Baltimore International Salon of Photography which will be on display at the Baltimore Museum of Art during the entire month of June.

Beside the wonderful display of pictorial prints in the main galleries, there were also auxiliary exhibits held, one of which is most important. Approximately one hundred and fifty prints of Edward Steichen, made over a period of his active career, were shown. This exhibit was to do honor to Mr. Steichen after his retirement from the successful work he has done for photography.

Other auxiliary exhibits included the prize winning prints of the Baltimore Camera Club. Scientific and technical exhibits were shown as well as the best advertising photographs of the leading magazines such as *Fortune*, *Life*, *Time*, *Vogue*, etc. All together there were over seven hundred photographs on display, the pictorial Salon of course being the largest and the main feature.

Two New Lectures Announced By Eastman Camera Club Service

The Camera Club Photographic Service takes pleasure in announcing two newly prepared lectures for the use of camera clubs. Requests should be placed as far in advance of lecture dates as possible, so write the Camera Club Photographic Service, Eastman Kodak Co., Rochester, N. Y., at once.

Lecture No. 12, "Photographic Papers and Their Properties," by L. E. Whittenberg. This lecture gives a brief survey of paper-making and describes the essential steps in the manufacture of Eastman Pho-

tographic Papers. The lecture includes 11 black-and-white slides and 24 mounted prints.

Lecture No. 14, "Photography in Criminal Investigation," by Lt. E. F. Burke. Displays the part photography plays in modern criminal investigation. Illustrated with 33 black-and-white lantern slides.

75th Anniversary Celebration of East Orange

The Orange Camera Club, 1 So. Clinton St., East Orange, N. J., in connection with the celebration of 75th Anniversary of the City of East Orange, assembled and hung an exhibition of historic pictures of the city in the Library. The show was assembled by T. A. Barrett and consisted of pictures of old landmarks and historical events, which were borrowed from club members and others throughout the city. The show was on exhibition at the Library during the month of May and has now been moved to the club rooms and will be on view until June 30th.

Photographic Society of San Francisco

At the annual meeting of the Photo-

graphic Society of San Francisco on May 20, Allen D. Sweet, who for several years has acted as secretary of the society, was honored by being elected its President. Louis J. Spuller was elected Vice President; Miss Helen Forster, Treasurer; and Edward S. Goetze, Secretary.

Cleveland Camera Clique Defeats Kodakers in Baseball

The members of the Cleveland Camera Clique, 10510 Buckeye Road, Cleveland, Ohio, emerged from their darkrooms and laid aside their cameras long enough to defeat the Eastman Kodak Co., of Cleveland, in a baseball game. The final score was 16 to 14, in favor of the Clique. It was the Kodakers first set-back of the season and plans for a return game are already under way.

Mr. George Tange, noted Japanese photographer and critic, addressed the club members at their meeting on June 3rd. On the 17th of June the club held an auction and swap night at which photographic equipment was auctioned and traded among the members.

Notes and Comments

Daylight Processing of Cut Film and Film Packs

The user of cut film and film packs may now abandon that neglected feeling for one of his pressing needs is now being well taken care of. We speak of a processing tank immune to all chemicals, and in which the entire developing, fixing and washing operations can be carried out in daylight once the films have been loaded into the tank. This much-needed accessory is now being supplied by James T. Lynch, 303 So. Cincinnati St., Tulsa, Okla. Racks are supplied for films ranging in size from $2\frac{1}{4} \times 3\frac{1}{4}$ " up to 4×5 " and are made of stainless steel. Each rack accommodates 12 films and extra racks may be purchased as desired. The tank is made of chemical resisting bakelite, and holds 32 ounces of solution. Write to the above address for full information.

New Bass Cine Bargaingram

The Bass Camera Co., 179 West Madison St., Chicago, Ill., announce their new Bass Cine Bargaingram, No. 234. This 52-page

booklet covers 8mm., 16mm., silent and sound, cine equipment, with a section devoted to 35mm., professional equipment. A section is also devoted to 16mm., sound on film recording apparatus, as well as, projectors. Fine bargains are offered on every kind of apparatus and the Bargaingram will be sent free upon request to the above address.

Gilbert Fine Grain Developing

The Gilbert Photo Service, Inc., 104 Lexington Ave., New York City, are offering a fine grain processing service. For \$2.00 they develop a roll of 35mm. film and enlarge each good negative by hand to approximately $3\frac{1}{2} \times 5$ inches. Write to the above address for further details regarding this service.

Lynn Western Distributor For Edwal

The wholesale photographic supply house of Robert M. Lynn, 923 So. Grand Ave., Los Angeles, Calif., are the western distributors for the complete line of Edwal chemicals. The popularity of the Edwal products has been established by their reputation for fine quality.

\$2000 Photo Contest

The Royal Typewriter Co., Inc. are offering \$2000 in cash awards for pictures of people writing. They do not care what or how they are written. For example, a shot of a plane writing in the sky would be acceptable or of a girl in a bathing suit tracing words in the sand. There is no end of possibilities. A special feature is the chance of doubling your prize money, for if a prize picture shows a Royal Portable Typewriter in use it wins double money.

Get your entry blank at once, from any store where Royal Portable Typewriters are sold or write direct to the Royal Typewriter Co., Inc., Contest Dept. CC-1, 2 Park Ave., New York City. Anyone (not a professional, a Royal Portable Dealer, an employee of Royal or its advertising agency or members of their families) is eligible for the 100 cash prizes.

Contestants can submit as many prints as they wish, with the proper entry blanks, before midnight, Friday, September 2, 1938. Winners will be advised of their awards on or before Oct. 15, 1938.

35mm. Film Developed and Enlarged

Minilabs, Inc., Box 485 Madison Square P. O., New York City, will develop your 35mm. rolls and supply enlargements of each good negative of approximately 3 x 4 inches in size. All films are fine grain processed and this service is offered for \$1.00.

Leica-Motor

Now we have advance news of the Leica-Motor, an accessory to be available in the future and which will aid in materializing the desires of many photographers for a camera which is practically automatic and foolproof and enables photographs to be made in rapid succession with ease.

This new accessory is interchanged with the baseplate of the Leica and when attached to the latter the whole forms a compact unit. A key on the bottom of the Leica-Motor winds a powerful spring which enables up to twelve exposures to be made automatically, releasing of the mechanism being accomplished by pressing a lever conveniently located on the front of this accessory. A scale on the Leica-Motor

makes it possible to set it beforehand to automatically make the number of exposures required. One of the great advantages of the Leica-Motor is that its operation does not cause camera movement, and, in addition, it allows the camera to be held firmly with both hands. This permits the use of slow shutter speeds should occasion arise for this practice. Speeds at which the successive exposures can be made are one per second and two per second.

The Leica-Motor is distinguished by factors characteristic of Leica—precision construction, quick interchangeability, and it is so made that when attached to the Leica the original streamlined, compact design of the latter is retained. Further information on this new accessory may be obtained from E. Leitz, Inc., 730 Fifth Ave., New York City.

New Kodak Enlarging Focus Finder Makes for Sharper Enlargements

A new enlarging focus finder, which will be welcomed by users of hand-focused vertical enlargers such as the Kodak Miniature Enlarger, is announced from Rochester by the Eastman Kodak Company.



Kodak Enlarging Focus Finder

The Kodak Enlarging Focus Finder is a sturdy aluminum casting, measuring about $2\frac{1}{4}$ inches wide, $5\frac{3}{8}$ inches deep, and $5\frac{7}{8}$ inches high. Mounted in the casting are a mirror of specially-ground optical glass,

and a 2 $\frac{1}{4}$ by 3 $\frac{3}{4}$ inch ground glass. It has a black, baked-enamel wrinkle finish.

In use, the device is placed on the enlarging paper holder and the negative image projected on the mirror, whence it is reflected to the ground glass. When it is sharp on the glass, it is sharp on the paper holder. The device may be moved about on the paper holder surface, to check focus at any point of the projected picture.

The Kodak Enlarging Focus Finder retails at \$5.75.

Two New Medo Products

The Medo Photo Supply Corp., 15 West 47th St., New York City, announces two new products of interest to all photographers.

The Empire Whirlpool Washer is scientifically constructed for quick and thorough washing. It is made of a one piece metal outer shell, having a baked white interior.



Empire Whirlpool Washer

The water inlet has five different channels at different levels which serve to keep the water in constant motion. The drainage valve can be opened or closed by a finger motion and has a baffle plate to prevent clogging. The sleeve valve with the opening at the bottom permits the heavier hypod-laden water to drain off first. The washer is four inches deep and sixteen inches in diameter. Price \$5.00.

The Little Giant Printer is a complete unit, precision-built, of all-metal construction. It has a felt covered pressure platen with a new automatic adjustable hinge, and can be used for either glass or film negatives. A heavy ground glass is included and it is exceptionally well ventilated. Completely equipped it is priced at \$9.00.

The Medo Photo Supply Corp. also announces the appointment of Mr. A. I. Morrison, of Detroit, Mich., as their mid-western representative.

Further details on the new equipment mentioned above will be supplied upon request.

Newest Nikor Tank Develops a 35 mm. Roll in Only 8 oz. of Solution

Burleigh Brooks, Inc., of 127 West 42nd Street, New York City, sole U. S. distributor of Nikor stainless steel daylight developing tanks, announces a new model for developing, fixing and washing full-length 35 mm. rolls, (of 36 to 40 exposures) which requires only 8 oz. of solution.

This new Nikor, which will be known as the Model 35, employs the new, smaller type reel—the same size as the ones used in the Model 33 which develops either one reel in 8 oz. of solution or two 35 mm. rolls simultaneously in 16 oz. of solution.

The Model 35 Nikor is easy to load and easy to keep clean. It cannot corrode or become "caked" as the chemicals have no action on the glistening stainless steel. Perfect and even development is assured with a minimum of agitation as nothing interferes with the free circulation of the solutions. It is unbreakable and should give a lifetime of satisfactory service. During extremely hot weather the temperature may be controlled easily by simply placing the tank in a pan of cool water.

The new Model 35 Nikor retails at \$5.75 and is expected to be on the market by June 1st.

Darkrooms For Rent In San Francisco

The Dark Room, 1821 Steiner Street, San Francisco, Calif., is offering amateur photographers in this vicinity a new and valuable service. Completely equipped dark rooms are available for rent and will allow the photographer, whose home does not permit a darkroom, to do his own work under splendid conditions. This service will also prove valuable to visitors to San Francisco. Paper, by the sheet or by the dozen, stock solutions, etc., will also be available, or the photographer may use his own materials. Your inspection is invited and you may write The Dark Room, at the above address, for further details of their service. Phone Fillmore 9177.

Intercontinental Marketing Corporation Opens West Coast Office in San Francisco

Intercontinental Marketing Corporation, distributors of ROBOT Cameras and accessories, Perutz film, Rol-O-Pod tripods, etc., announce that increased business all over the country has necessitated their opening a West Coast office. The new offices will be located in San Francisco, and will be under the direction of Mr. Max P. Ponder.

Special Offer

The Multifax Mfg. Co., 10 East Huron St., Chicago, Ill., are offering two books, at less than the price for one, as an introductory measure. "Enlarging Made Easy," price 15c, and "Questions and Answers In Photography," price \$1.00, are being sold at the combination price of 75c. "Questions and Answers" is a 111 page book answering more than 300 photographic questions.

The Multifax Mfg. Co. will also forward free of charge a complete catalogue of their line of enlargers selling at \$8.95 and up. This offer is made for a short time only so act at once.

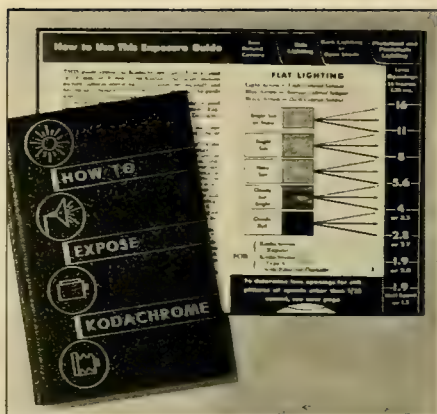
Agfa Film Packs Now Marked with Numbered Exposures

Arrangements have been made to mark the individual films of all Agfa film packs with consecutive numbers from one to twelve, corresponding to the number on each film tab. This feature provides an added convenience for film pack users as it provides positive yet simple identification of every film pack negative. All Agfa Superpan Press film packs carry this numbering. Similarly marked are all Agfa Super Plenachrome film packs with an expiration date of April 1939 or later and all Agfa Superpan film packs with an expiration date of January 1939 or later.

New Kodachrome Exposure Guide Covers All Picture Situations

All users of Kodachrome Film, Regular or Type A, still or movie, will welcome a handy new vest-pocket-size guide, "How To Expose Kodachrome," just announced from Rochester by the Eastman Kodak Company.

Planned to insure the perfect exposures



Kodachrome Exposure Guide

which are desirable in color photography, this guide is a group of graphically-designed charts, bound in quick-reference booklet form. Cut-back page tabs make for easy use, and the precise exposure for any subject, in any suitable light, is determined in a few seconds. Large numerals and two-color printing facilitate exposure readings.

The guide also includes a convenient "conversion dial," which provides a complete range of lens-and-shutter combinations. When this dial is set at the lens and shutter speeds indicated by the charts for any subject, it automatically indicates the equivalent lens opening for any other shutter speed from 1 second to 1/1000. Lens openings from f:22 to f:1.5 are included.

Complete data is provided for Photoflood and Photoflash pictures on Type A Kodachrome Film, and practical instructions are included for the use of Kodachrome filters and the Kodak Pola-Screen Type 1-A.

Pages of the guide are printed in light blue and black on sturdy card stock, and laminated on both sides with tough transparent Kodapak. This durable lamination gives the pages a smooth glazed surface which protects against soil and wear. The cover is stiff, bound in dark blue Kodadur, and stamped in gold.

Retail price of the guide, "How To Expose Kodachrome," is 50 cents.

Our Book Shelves

Land of the Free, by Archibald MacLeish.

Published by Harcourt, Brace & Co., of New York City. 186 pages, 7 x 9 inches, 88 full page illustrations, price \$3.00, cloth bound.

When Margaret Bourke-White and Erskine Caldwell combined their talents to produce the book "You Have Seen Their Faces," they showed the tremendous power of the photographer-author combination in social documentation. Now, the "Land of the Free" brings the work of a leading American poet, Archibald MacLeish, into sharp relief against a background of pictures by many of this country's finest photographers.

With the poetry acting as a "sound track" for the flow of the pictures, the book deals with the plight of those people who, faced with depleted, worthless land, are wondering where to go in a land whose frontiers are gone. Their farms have blown or washed away before their eyes and they have gone out upon the public highways looking for something they know is gone. They are wandering on the highways now, wandering and asking what to do.

The poetry and photographs make their plight vivid, alive and startlingly clear. In Mr. MacLeish's words, the "Land of the Free" is a book of photographs illustrated by a poem but with this we cannot agree, for both poetry and pictures seem to us to be mutually dependent. Neither could have the telling power and impact alone that they create together.

The effectiveness of this method of presenting a problem or idea may be due, in part, to the old saw that "photographs never lie" but the important thing is that it is effective. With the strength of the written word, prose or poetry, combined with photographs thus conclusively shown, we can look forward to their increasing use in this type of work and, perhaps, to a broadening of their scope.

The majority of the 88 full-page illustrations are the work of Dorothea Lange,

Arthur Rothstein, Russell Lee, Walker Evans, Ben Shahn, Carl Mydans and Theodor Jung; and were taken for the Farm Security Administration. The remainder of the photographs were made for various purposes by Margaret Bourke-White, Willard Van Dyke, Wayne Bell, W. H. Lathrop, W. B. Bradford, R. W. Hufnagle, Ewing Galloway, William M. Rittase, John Gutman, and others.

Nature Photography Around the Year, by Percy A. Morris. Published by the D. Appleton-Century Co., of New York City. 251 pages, 5½ x 8½ inches, price \$4.00, cloth bound.

A splendidly written and illustrated book on nature photography that shows clearly the fascination and wide variety of subject matter available in this branch of photography.

The author opens the book with a preliminary chapter on equipment and then, gives a month-by-month description of the nature subjects to look for, punctuated with many practical hints that are the result of the writer's years of experience in this field.

The data given applies most particularly to the Northwestern Section of the United States but the material of this book has a universal application and will prove invaluable to any student of this subject.

Photography, Theory and Practice, by L. P. Clerc. Published by the Pitman Publishing Corporation, of New York City. 590 pages, 7¼ x 9½ inches, price \$10.00, cloth bound.

The second edition of the standard reference book of photography brings the material of this tremendous volume completely up-to-date. This book should be included in every photographer's library for purposes of reference for there are few questions one can ask without finding the answer here in thoroughgoing detail. However, the author has not attempted to include all the material on photography but only that part of the theory and practice which is practical today, thus eliminating

mass of obsolete methods. In his own words, the "author's aim has been to bring into one volume as complete a treatise as possible on modern working methods and apparatus in conjunction with the minimum of theoretical considerations which he considers necessary for their proper understanding."

Photography Year Book, 1938, Edited by T. Korda. Published by the Cosmopolitan Press, of London, England. 470 pages, $9\frac{1}{2} \times 12$ inches, price, \$8.00, cloth bound.

This is the third volume of this international annual of photographic art which each year grows increasingly impressive. Its 470 pages and more than 1600 reproductions offer the widest possible survey of photographic endeavor in every field. The work is divided into six general sections including: pictorial and commercial photography, trick photography, applied photography, scientific photography, strips, and advertising photography.

This volume is of equal value to the amateur and professional photographer as a study of its many pictures offers the benefits of ideas and knowledge of hundreds of the world's finest workers in this medium.

Of particular interest is the news that the 1939 volume will be offered on the U. S. market at the new low price of \$7.50.

Light, by Vivian T. Saunders, M. A., Published by the Chemical Publishing Co., of New York City. 330 pages, $4\frac{3}{4} \times 7\frac{1}{4}$ inches, price \$2.50, cloth bound.

A text book for students that sums up in simple fashion the theory and practical applications of light. It is arranged by numbered paragraphs for easy reference and includes a series of questions that will enable the student to test his knowledge of what he has read. Of particular interest to photographers will be the sections on lenses and the nature of color.

The Penrose Annual, 1938, Edited by R. B. Fishenden, M.Sc. (Tech.), F.R.P.S. Published by Lund Humphries & Co., Ltd., of London. 179 pages of text and many illustrations, 8×11 inches, price \$5.00, cloth bound.

Volume 40, of this famous "Review of the Graphic Arts" brings the same beautiful printing and reproduction quality that

its readers have grown to expect. Though several articles and many reproductions are devoted to photographic work in monochrome, this volume will have its greatest interest for those interested in color photography. Many beautiful examples of full color work are given and an article is also devoted to the problems of reproduction from Agfacolor 35 mm. film.

Answers to "What Is Your Photographic I. Q.?"

From Page 339

1. Edward Weston.
2. Print on a long scale paper. A long scale negative is one with great contrast. Consequently it needs to be printed on a soft, or in other words a long scale paper. The first rule of good bromide printing is that every print must be given full development. It is impossible to get a rich full-toned print of good color without full development. Alteration of the exposure-development relation in bromide printing has little effect on contrast and is to be avoided for the above reasons. Obviously there are other means of controlling contrast which are not considered in this question.
3. The hyperfocal distance. Every lens will render greatest depth of focus when focussed on the hyperfocal distance for the stop being used. The hyperfocal distance is different for each stop with any given lens and varies for lenses of different focal lengths even though they may be used at the same stop. When a lens is focussed on the hyperfocal distance for the stop being used, everything from half the hyperfocal distance to infinity will be in focus.
4. The Salons listed have completed the following number of international exhibitions: Pittsburgh 25, Los Angeles 21, Chicago 8, Oval Table 1.
5. Frank Liuni.
6. Four times. Each time the Weston numbers are doubled the exposure should be halved.
7. Devin and Curtis. The Bernpohl is manufactured in Germany, the Vivex in England.
8. Preservative. Without a preservative a developer forms oxidation products very rapidly due to the action of oxygen in the air. Such oxidation products turn the developer very dark in color and give it a pronounced staining action. To prevent to a greater or less degree both of these effects a sulphite—most commonly sodium sulphite—is practically always introduced into a developing solution. The sulphite combines with newly formed developer oxidation products to produce compounds which are relatively only slightly colored and which are probably not retained to any extent by the gelatine of the photographic emulsion. With Amidol and to a much less extent with Metol, sodium sulphite plays at once a dual role as preservative and accelerator.
9. Use a lens of shorter focal length and adopt a nearer viewpoint. With a lens of shorter focal length the photographer can move closer to the foreground objects until they are the same size on the groundglass as before. Background objects will then appear smaller and lower in the picture space with relation to foreground objects.
10. That all colors in the scene are rendered in monochrome in their correct relative luminosities. (Webster's definition of orthochromatic) (a) "Of, pertaining to, or producing, tone values (of light and shade) in a photograph corresponding to the tones of nature." (b) "Incorrectly, designating a film made sensitive to green but not to red light." When "orthochromatic" emulsions were first introduced they were such a tremendous advance over the old color blind plates that natural enthusiasm led to their being called "orthochromatic" the term inferring, in correct relation to color. Actually no film is yet available that is truly orthochromatic. Filters must be used with any emulsion to obtain an orthochromatic rendering of colors.

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◆Dollina II F2.8 Zeiss Tessar lens Compur Rapid shutter, built in coupled range finder and everready case. Like new, perfect condition. \$45.00. Al. Strom, 15 Park Row, Room 1227, New York, N. Y.

◆Cooke series X, F2.5, 6 1/2 inch anastigmat, like new, with or without Graflex, 3/4x4 1/4. Bargain quotation on request. Frank Jones, Henry Building, Portland, Ore.

◆2 1/4x2 1/4 Korelle Reflex II, F2.9 lens, list \$123.50 for \$79.50; 35 mm. Welti with squeeze trigger F2 Xenon lens Compur-rapid, list \$85.00 for \$52.50; 1 1/4x2 1/4 Balda F2.9 lens Compur-rapid list \$56.00 for \$37.50. All cameras as new and with cases. Address T. B. H. care Camera Craft, 425 Bush St., San Francisco, Calif.

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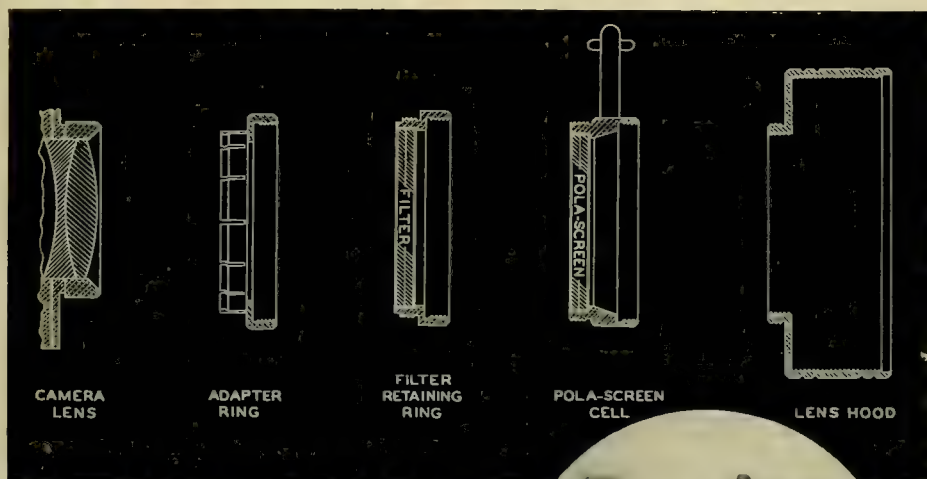
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The Miniature Developer

William Mortensen

"**G**AMMA," as that term usually appears in the conversation of amateurs, is merely a verbal flourish employed to impress the unwary listener. They know it is something learned and abstruse, and their casual use of the word creates an aura of erudition and photographic worldly-wisdom which is very soothing to their egos. But pin them down and you will find, nine times out of ten, that they really haven't the slightest idea what they are talking about.

To be sure, they realize that Gamma has something to do with negatives; but just what it has to do with negatives, and just what—if anything—it has to do with making pictures—these are questions they are very vague about.

A favorite misapprehension among camera-clubbers is that gamma means density. A very dense negative they will refer to as "a negative of high gamma," and a thin negative will be described as "low gamma." This, of course, is a thoroughly inaccurate use of the term; for a dense negative may be either high or low in gamma, according to conditions; and a thin negative may have a higher gamma than a dense one.

Nor does gamma necessarily express the contrast of the negative, although those who use the term in this connection are displaying some appreciation of what it is all about.

Actually, gamma is a purely *mathematical* expression. It is, specifically, the "tangent" of an angle, and expresses in a crabbed and concise manner the relationship of the coordinates of exposure and density. The connection of this purely mathematical value with the concrete problems of the pictorialist is quite tenuous and far-fetched.

Nor can gamma alone suffice to define the quality of a negative. Some emulsions are essentially high gamma in character, and others are low gamma. Some developers incline to produce high gamma results, and others

Data on Frontispiece: Miniature negative; plastic light; exposed for light area; developed in Gamma D; Abrasion Tone process.

tend toward low gamma. And various other factors such as time and temperature enter in to complicate the interpretation of gamma reading.

Indeed, it is only by a sort of figure of speech that we are able to speak of a "high gamma negative" or a "low gamma negative." Actually, it is impossible accurately to ascertain the gamma value of an ordinary negative. Gamma may only be determined by tests made in a sensitometer, under controlled conditions of time or intensity.

The fact that so many amateurs seize with such eagerness upon this highly technical matter of gamma as a sort of Open Sesame to all negative problems is an indication of the need they feel for some sort of sound technological basis for their approach to pictorial problems. It is a sad fact; but most of the sound technical knowledge in photography seems to be in the keeping of the technicians, in whose hands it exists largely in terms of test-tubes, sensitometers and graphs, and seldom comes to grips with concrete problems of picture-making.

It is particularly in regard to the negative that the amateur feels the need of technical guidance. The making of a negative is the toughest technical problem that the amateur has to deal with. The making of the negative is, indeed, almost entirely a matter of science and technology—guided of course by a sense of the pictorial intent of the negative.

The technology of the negative must be varied according to the use to be made of the negative. Different technology is required for a contact negative and for a projection negative. And different treatment is demanded for large and small negatives. The miniature negative requires a specific treatment of its own.

I have in the past discussed the matter of Negative Quality from various angles.* On this occasion I am going to talk specifically about the developing of the miniature negative.

For, with the present vogue of the miniature camera, pictorial problems nowadays are principally miniature problems. And of all minicam problems, the most prevalent and vexatious are those pertaining to negatives and negative quality.

For the making of negatives for projection, I have for a long time advocated a definite scheme of exposure and development. This scheme, in brief, prescribed an exposure based on the *light-area* of the image, plus development for forty-five minutes or more. Only by this specific combination of exposure and development is it possible to obtain the completest possible separation of the delicate half-tones in the light passages of the subject, together with luminous and imaginative rendering of the shadow passages.

The extended development is a very important part of the scheme. In technical terms, speaking the language of Hurter and Driffield, it would be known as development to "gamma infinity." This means that the image is developed to the furthest extent possible with the given emulsion and developer.

On larger-sized negatives— $3\frac{1}{4} \times 4\frac{1}{4}$, or thereabouts—I have successfully carried out this extended development with many different types of

*Projection Control, Chapter Three; Pictorial Lighting, Chapter Four; "The Perfect Negative," Camera Craft, March, 1937.



"Donna Tigrina"

M. D. Gioio Bianchi

Baltimore International Salon

developers.* But with the miniature negatives this procedure is feasible only with a developer of quite specific characteristics. These are the characteristics:

1. It must be capable of extended development without blocking up.
2. The grain of the developed image must be of extreme fineness.
3. It must produce a *crisp* image. (Developers that fulfill the first two specifications frequently yield flat results.)

It is only among the so-called *low-potential* developers that we find some that meet all three requirements.

In regard to the activity and speed of working, we may assign negative developers to four different classes:

1. Developers which develop completely in less than five minutes.
2. Developers which develop completely in more than five and less than ten minutes.
3. Developers which develop completely in more than ten and less than fifteen minutes.
4. Developers which require twenty minutes or longer.

The first class includes high-potential developers accelerated with strong alkalis; such, for instance, as metol-hydroquinone accelerated with sodium carbonate.

In the second class, we find metol-hydroquinone accelerated with borax. Also glycin accelerated with sodium carbonate and pyro accelerated with sodium carbonate.

Metol-hydroquinone appears also in the third class—when accelerated with such mild alkalis as sodium benzoate or sodium meta-borate. Here also are included glycin, pyro, and chloral hydroquinone developers.

The fourth classification includes such developers as para-phenylenediamine, paracarboxyl-paramino-diphenyl-amine, and pyrocatechin. Developers in the fourth class are those of low potential, and are *the only ones adapted to the processing of the miniature negative*.

Some explanation of the term "potential" is perhaps called for. Developers vary greatly among themselves in the energy with which they work in the emulsion. Certain compounds—such as metol, for example—react very readily with the silver halides of the emulsion and latent image. These compounds, when given a developing job to perform, roll up their sleeves and go to work in a very hearty fashion. They finish their job quickly—but in a rather slam-bang, slap-dash style. These are high potential developers. They have their photographic uses, but to employ them for the development of miniature negatives is rather like hiring a plumber to mend your watch. There seems to be actual physical force involved in the developing process, and the high potential developer operates deleteriously on the latent image, recklessly shoving the particles around within the emulsion, so that there is clumping of the grains and actual diffusion of the image.

The low potential developer, on the other hand, is a compound that does not react readily with the silver halides within the emulsion. Such a

*Barring, of course, the extremely vigorous developers.

compound is para-phenylene-diamine. The low potential developer goes about its work daintily, meticulously—not to say reluctantly—and it takes its own sweet time about finishing the job. Within its limitations, it does a very good job, carefully building up delicate scales of half-tones that the high-potential compound merely sketches in roughly. Owing to the slight energy of the low potential developer, there is no evidence of strenuous physical force within the emulsion, no clumping of grains, no diffusion of the image.

Of the various low potential compounds, para-phenylene-diamine is the one in most common use in present so-called “fine-grain” developers. Most commercial fine-grain developers (including those made with para-phenylene-diamine) are subject to numerous criticisms. Let me mention some of their commoner faults.

1. Not genuinely fine-grain. Many commercial developing establishments do their “fine-grain” developing in borax-glycin. This is a developer of medium potential. It produces effectively crisp negatives, but the grain is only moderately fine.
2. Poisonous. Para-phenylene-diamine solutions are poisonous to many people, resulting in an infection of the skin, painful and difficult to heal.
3. Lack of crispness. With some fine-grain developers, even prolonged development fails to produce a negative with a sufficient amount of contrast. Glycin is sometimes added to para-phenylene-diamine formulas to overcome this deficiency, but it also produces a slight coarsening of the grain.
4. Abrupt breakdown. This is a characteristic failing of para-phenylene-diamine developers. After developing ten or fifteen rolls of film, instead of losing its effectiveness gradually, the solution breaks down suddenly and completely. There is no warning; one roll may be developed perfectly, and the roll that immediately follows it will scarcely show a trace of an image. With commercial finishers this is a very serious fault, since it may involve the spoiling of a customer's film.

Recent years have witnessed the birth of many “fine-grain developers,” but there has been little advance in the technology of fine-grain. The faults listed above have pretty generally haunted those who have hoped for the best and have tried each new product as it made its appearance.

The most hopeful field for progress along these lines seems to lie in the direction of certain para-phenylene-diamine modifications, derivatives, and addition products.* These new compounds give promise of retaining the desirable low-potential characteristics of the para-phenylene-diamine base, minus its deleterious qualities.

*Such an addition product is paracarboxyl-paramino-diphenyl-amine, which was originated by Dr. Albert Doran of Fine Chemicals, Inc. This product is the essential developing agent in the recently released Gamma “D” developer.

In Defense Of The Judges

Paul Louis Hexter

IN "A Warning To Judges" (Camera Craft March 1938) the responsibility for the poverty of good pictures in current salons is placed directly on the shoulders of the salon judges. They are supposedly suffering from a number of mental diseases such as, "Locale Difficile, Old Master-philia, Composition-mania, Sentimentissimus, Subject Matter Traditionalism and Draftsman Empathy."

Salons whether in Keokuk or San Francisco are appallingly alike. This year's salons look like last year's and last year's look much like the year before. There are never more than a few outstanding pictures in any salon but the shortage of good pictures cannot be blamed on the salon judges. Photographers are the ones who are at fault.

A salon after all can be no better than the pictures that are submitted and the judges have little to do with the general excellence or lack of it. When salon judges select 200 pictures out of 2,000, those 200 will be the best of the lot, a few exceptions taken for granted. The standard of any salon is not determined by the judges but by the average quality of all the pictures as a group. The judges must select a small percentage of the submitted pictures for the exhibition. Whether or not the selections are good depends entirely on the comparison to other pictures.

Name calling of judges is not peculiar to photography. It is always prevalent in every competition of the arts directly in proportion to the number of entries turned down. All such competitions are a matter of comparison to variable standards determined by the group as a whole rather than comparison to any fixed standard. Before the judges are excoriated too severely, the work they have discarded should be taken into consideration as well.



"In His Image"

Paul Louis Hexter

Alfred Stieglitz never complained about judges, nor did Edward Steichen. Leonard Misonne never has any trouble, nor does Edward Weston. Their work is of such outstanding merit that it is instantly recognized. If you dislike the photography as exhibited in salons today do not blame the judges, blame the photographers. If work is accepted here and turned down there it is borderline work, good enough to get in one salon but not in the next depending upon the quality of competition. Do not blame the judges for inconsistency but see the work as it really is. Unless you are a genius, believing your masterpieces should be recognized by every one and live through the ages, let the poor judges alone. If you are a genius, your work will find ready recognition.

Contemporary photographs show a lack of individualized original thinking in the approach to the entire subject of photography. Primarily these photographs are the work of craftsmen attracted to photography by the apparent ease with which a picture can be taken. There is no effort to do that which has not been done before but there is much duplication of that which has already been done many, many times.

Photographers, look to your own background for the explanation of the

poverty of good pictures. Did you study with someone whose work was generally recognized, or did you learn to develop and print by trial and error in the family bathroom? Do you use the camera to solve a problem every time you snap the shutter, or do you click away here, there and everywhere, hoping that some salon will take a few of the pictures? Do you study, read, and think photography, building theories, imagining pictures, having ideas, driving on to new things, using photography more as an artistic medium and less as a button pusher, or are you content with your present knowledge and your present salon pictures? Have you delved into the other arts to find what is considered good in them? Do you know what contemporary painters, etchers, and sculptors are striving for? Do you frequent Art Museums? Do you search through books of the past to learn from them? Do you know what your best contemporary photographers are searching for?

Photography is a child among the arts. Because of its youth there is little background and little tradition. There is so much to be done, so many unexplored channels that it should be the easiest medium in which to do outstanding work. The recognized masters are few and they are all contemporaries. In the other arts there have been generations of workers and many masters. Yet it seems our little machines keep most of us constantly clicking without taking time out for a fundamental understanding of what we are trying to do.

Success in photography results from a background of fundamental knowledge, a clear understanding of the problem at hand and an active intelligence. Most of us are content with a superficial understanding of any problem. Today, drawing rooms everywhere resound with heated discussions of totalitarian governments, of Communism, and of Socialism. How many of us are sure what these terms mean? Our knowledge for the most part comes from the interpretation of an opinion of some commentator who wrote on his idea of the original.

Artists in all mediums whether painters, sculptors, or photographers, have similar mental equipment and, therefore, most of them are content with a superficial understanding of their particular problems. Certainly before work in any art can be successful, the artist must know what he is about. Success is hardly some mysteriously intuitive passion give to a gifted few. All great artists who have written of their own work have always laid great stress on the labors of pure reason involved. Success only comes after deep concentrated study and much hard work.

The howl about the unfairness of salons is mostly sour grapes on the part of those who feel they deserve more recognition than they usually receive. While workers of exceptional ability have no trouble in having their work accepted, it does not follow that because work is accepted the worker has exceptional ability. No one has yet to suggest a better method of evaluating photographs than the present one of qualified judges selecting 10% to 15% of the entries for exhibition. The controversy is not because of the judges, it is because of the photographs they have to judge.

Glamorization!

Maurice Seymour

(Leading entertainers and exclusive society members have long learned to associate the name of Maurice Seymour with glamour. A list of his patrons would look like a combination roll call of theatrical top-notchers and the cream of the society pages. Mr. Seymour's work has been the source of some controversy in the photographic world, the opponents of his "glamourized" photography holding that his type of work makes the portrait somewhat different from the subject as seen by the naked eye. Mr. Seymour ably defends his technique in the following article.—Ed.)

THE average amateur photographer often returns from a fine cinema production, thrilled by the irresistible loveliness of the heroine. He is certain that Hollywood camera men have an easy time photographing the beautiful actresses who display their histrionic talents before the camera's eye.

He asks his wife or friend to adopt a pose of his favorite star, aims a couple of photofoods at her, focuses his camera, and clicks the shutter.

The results? Well, most likely there's some difference between his work and that of the fellow who did the movie work.

Actually, many of the cinema celebrities are far from the exquisite creatures you see on the screen. Their crystal clear skins are often densely freckled. Their oh-so-kissable mouths may really be too thin-lipped. There is frequently a great difference between the photographed person and her real self.

We call that difference glamour.

In my opinion, about fifty per cent of glamour lies in the artistic ability of the photographer, his intelligent selection of the proper camera angles, the right lighting, the attractive pose. The other half is preparatory make-up.

You undoubtedly have had some experience with lighting, and there are many excellent sources of information on this subject at your disposal. Selection of the best camera angles depends on the purpose of the photography and the physical possibilities of the model.

But you should also have a basic knowledge of make-up to conceal minor defects and to bring out the hidden character and beauty of the subject, giving her some of the advantages Hollywood offers and giving



Figure 1. Before glamorization . . .



Figure 2. . . and after glamorization!

yourself the opportunity to create, as well as photograph, beauty.

There is a school of thought opposing the employment of make-up in photography, claiming that it is inaccurate portrayal, and therefore not true photography. To me this standpoint appears weak. Make-up does not conceal the subject's face, it merely enhances the best features and simplifies the physiognomy so that character may be brought out.

A girl's lips may be too thin and small. Her brows may not have an arch that does the most for her eyes. The make-up artist who exchanges these features for more perfect ones as he paints her inner character on her face is doing nothing more than giving her the same advantages Hollywood gives its chosen ones.

Every woman has a desire for glamour, as does every man (but if he's a customer, for Pete's sake call it "dash"). It is up to the portrait photographer to fulfill this desire.

Let's follow a hypothetical model through the various processes of being transformed from her everyday self to the subject of a glamorous portrait:

First her street make-up is removed. Syd Simons, make-up artist who does our beautification work, is always very careful to see that all mascara is eradicated from the eyelashes to keep it from later running into the grease paint and forming dark circles under the eyes. He uses a good liquifying cleansing cream, to cut rouge and eyelash make-up quickly. (You can probably borrow a jar of this from the medicine cabinet.) The cream is removed with tissues after it has loosened the cosmetics. Then the model's face is gone over with skin tonic.

Before we begin applying pre-portraiture make-up let's discuss the



Figure 3. Here is a model, photographed in ordinary street make-up. Attractive, certainly, but not quite glamorous.



Figure 4. We remove the street make-up and apply a base foundation evenly over the features.

nature of it. Syd always employs panchromatic make-up for black and white photography. This follows photographic theories with which you are undoubtedly long familiar. It disregards color in favor of theoretical light and shadow. Therefore the make-up we are using is a variation of one color, ranging from light cream to a deep orange-tan. With this, we create light and shadow for third dimensional values, remembering that light foundation cream makes features stand out and dark foundation generally makes them appear in shadow. Thus by proper usage of varying shades, we can, for example, mold the shape of the nose.

You are probably surprised at what appears to be the dark color of panchromatic make-up. Remember, though, that thanks to its freedom from red, olive or blue pigment often found in the face, it may photograph lighter than the so-called white skin.

Of course, panchromatic make-up can be used only with panchromatic film. If you slip up and use orthochromatic film you'll find your results reveal your subject with a very very dark skin, since orthochromatic film is not sensitive to all colors and makes red go black. If you *must* use orthochromatic film, keep foundation and powder colors very light and use eye shadow and lip rouge most sparingly.

Our make-up procedure is, in order: application of the base foundation, application of shadow and highlight, eye foundation make-up (except mascara), powder, brows, lashes, lips and oil highlights.

We are always careful to work with clean fingers, wiping them on a towel or tissue each time they are removed from the face. A fingerprint of the wrong color may spoil the entire make-up.

First we apply a medium shade of foundation and bring out some of the features, eradicating the lighter, finer lines or wrinkles with a much

lighter foundation. Grease paint and foundation are one and the same thing. Foundation, like all make-up items except powder, has a greasy or creamy base, therefore, in applying make-up, always rub it in a downward direction, never round and round or back and forth. This insures a smooth make-up that will photograph well. If necessary, water can be used to blend foundation and smooth it out.

Next we use a foundation three or four shades lighter for highlights, to bring out the hollows of the eyes and cheeks. We would also use this for receding chins or any other feature to be accentuated. This is employed directly over the base foundation.

For shadows a third foundation, three or four shades darker than the base is used. In applying this shading, we are careful because it is easier to put dark colors over light than light over dark. This darker foundation takes the place of rouge in the everyday make-up of the model, modifying contour when placed where it can lend the most pleasing shape to the face.

The wider the face, the closer shadow foundation should be brought to the nose, the thinner the face, the farther from the nose. If the face is short, the dark foundation should be placed high, if the face is long, dark foundation should be placed low.

We balance the pattern and intensity of the dark foundation on both cheeks, keeping the dark color out of the hollows in the cheeks since we do not want the hollows accentuated. We also keep it outside the laughter lines running from the sides of the nose, to avoid our subject having a haggard appearance. The color is darkest on the highest part of each cheekbone and is blended upward and outward and in toward the nose, fading away into the base foundation. Were the model of a heavier type, we would use shadow foundation to lessen or conceal surplus flesh, such as heavy jowls or extra chins.

Many photographers who work with intense lighting close to the subject find the lights too strongly reflected by certain facial features, particularly the nose and the forehead. These features then appear too light. It is possible to counteract this light intensity by application of shadow foundation on the features reflecting it.

We carefully blend the colors as they go on the face of the model to give a natural effect to the finished make-up. Every bit of flesh is covered, but the dark foundation is spread fairly thinly since it is easier to add than it is to take away.

Now that the foundation, shadows and highlights are applied, let's attend to the eye shadow, known in the theatrical world as "liner." Syd, our make-up artist, is a strong advocate of brown eye shadow spread sparingly on the upper lid. This includes the entire area below the brows and above the eyes.

It is a definite fact that several shades of the same color come from the same jar, depending on how thinly or how heavily the shadow is applied. We carefully blend the liner, using either our fingers or sable brushes to avoid harsh lines. The protruding section of the upper lid is accentuated by rather heavy application of the liner. As we reach the brows and outer corners of the eye, we fade the liner away into the foundation.

The lower lid comes next. We underline this with brown eyebrow pencil to make the eye appear larger, in fact we may even deviate from the



Figure 5. Lighter foundation is used to bring sunken features out and to counteract shadow. The light foundation is later blended into the base.



Figure 6. Foundation darker than the base is used to round out the jaw, lessen the conspicuousness of higher features, and lessen the breadth of the face.

natural line a bit further this end. We may do this because the line is a subtle one. By blending the color evenly with cotton we obtain the desired effect. We never use black on the flesh for color because black gives a hard effect to the make-up.

Now that all foundation colorings, base, foundation highlights, foundation shadows, and eye shadow, have been applied, we powder the face of the model. The powder largely eliminates the difference in foundation colors, enhancing the subtleness of highlights and shadows. The powder is in a shade to match the base foundation. The deep coloring is lightened by the soft texture of powder and by elimination of the shine resulting from the oily base of the foundation.

Powder is applied by carefully pressing the puff against the face. The quantity used is lavish and the application leaves the model's face looking as if it had been dipped into a flour barrel. After the powder has set a short time, the surplus is removed by employing downward strokes of the powder brush. This flattens the hairs of the face.

The powder is never fluffed on the face by dabbing with a puff because this method causes uneven distribution on the oily foundation subsequently causing the powder to adhere in clusters to the spots where foundation is heaviest. These clusters are very difficult to eradicate.

Now we come to the lashes, brows and lips. This make-up is applied directly for the camera and will usually not be powdered over, so a great deal of care must be exercised at this point.

The brown pencil is used on our model, as on all types of brows except the very darkest. Even on the very brunette we rarely use the solid black pencil, preferring the softer mixture of brown and black which you can



Figure 7. Notice how the shadows and highlights have been blended into the base foundation leaving their good work noticeable, but not their separate colors. Here highlighting and shadowing foundation is used to restyle the nose.



Figure 8. A make-up brush is used to underline the eye with darker shade toning. This makes the eye appear larger and brighter.

attain by combining coloring from both pencils. On the brows of extreme blonds the brown pencil is used very lightly and sometimes powder is applied over it.

To accentuate and lengthen the brows of our model, we draw fine hair-lines on the skin, giving the lines an upward tilt. Since the eyebrow pencil is too bluntly pointed for this purpose, we apply coloring from the pencil with a brush worked to a point. Usually, though, when the brow is naturally well arched, we just tint the hair in it sufficiently to define them well.

Mascara the upward lashes heavily with an upward and outward stroke of the brush, emphasizing the outer corners of the lashes. Leave the lower lashes alone. If the model's lashes are so blond that they are barely visible, they may be tinted slightly.

It is in painting the lips that the make-up artist gives himself the greatest leeway. He often paints an entirely new and more attractive lip line on the face. We apply the lip rouge with a make-up brush. The model then closes her lips on a cleansing tissue two or three times to blot up the surplus lip rouge. If the upper lip is too thick, it should be more darkly rouged than the lower to give better shape and contour to the mouth. If the lower lip does not stand out sufficiently we lighten it by rubbing it with a finger.

Some make-up artists apply lip rouge before the powder because it is far easier to remove inadvertently placed rouge at this time. However, in the interests of the fresher appearance of the post-powder method, we exercise a little more care in applying lip rouge.

The spots where we desire highlights are now touched up. Oil is used for this purpose. Vaseline, mineral oil, olive oil, or brilliantine are equally satisfactory. We apply it to the lips and the eyelids by patting a small, oil-



Figure 9. Powder has been applied, the brows pencilled and mascara employed. The lips are now reshaped by skillful application of lip rouge.



Figure 10. And here is the model photographed in glamorized make-up. Attractive? Certainly, . . . and glamorous!

saturated pad of cotton over them. When the highlights are too strong some of the oil can be removed by patting it with a fresh, clean pad of tissue. Oil should be patted very lightly, instead of rubbed, to avoid smearing the make-up.

Brilliantine is smoothed over our model's hair to bring out strong highlights here.

We check the make-up for balance, shading, finger prints, highlights, and effect, using the eyebrow brush to remove any powder from the brows—and our make-up job is complete.

Had our model been of excessively dark or reddish complexion, we would have used liquid powder on the neck and other exposed parts of the body. Liquid powder is applied with a sponge, wet in water and squeezed out. The bottle is shaken well and a small amount of the powder poured on the sponge. The sponge is then stippled over the area to be covered and the make-up smoothed out with the fingers, rubbing in one direction only. Liquid make-up is never used on the face for portrait photography because the application smears the foundation and the entire results are unsatisfactory.

We deviate slightly from this make-up procedure in working with men models.

Care is exercised about the use of powder on men. If the subject has a dark beard line, do not try to hide this with foundation and powder. Both are applied sparingly, allowing the beard to show through. This increases the masculinity of the photography and affords natural contrast of light and shadow.

A second reason for the application of little powder on the man is the

desirability of a natural shine on his face. There is an important exception here, though. If the man has a full, rounded face and it is left oily, the photograph will make his face excessively large. Put plenty of powder where it will do the most good on this type of face.

It is a good general rule to use make-up sparingly on the man and as heavily as the case requires on the woman.

Leave the male subject's brows alone if it is at all practicable. Lip rouge should be a shade lighter for men than for women and blotted until only a light tint defines the lips. Eye shadow should be used much more sparingly on men than on women.

Lighting in our make-up room is perfectly flat, as with all stage and motion picture make-up benches. It comes from a row of lights at the top and sides of the mirror. Thus false highlights are eliminated from the reflection, making it easier to apply make-up accurately. Some sort of flat lighting rigged up for home make-up work should be a decided help.

Your subject will be more comfortable throughout a lengthy application of make-up if you improvise some sort of head rest similar to the shaving head rest attached to barber chairs.

In selecting the various shades of make-up several factors should be considered. You will want comparatively light shades of make-up if you use soft lighting and rather dark shades for strong lighting. Backgrounds, cameras and other factors will also enter in your selection of shades, therefore consider the following chart only an average and modify your color selections accordingly. Two numbers are used in each suggested shade because they are the different designations employed by manufacturers of the most generally available brands of make-up.

The numbers in the left-hand column designate Max Factor cosmetics, those in the right-hand column apply to the Elizabeth Arden line.

FOR WOMEN

Base foundation	26 or 6
Highlight foundation	22 or 2
Shadow foundation	29 or 9
Eye shadow	22 or 2
Blonde lip rouge.....	8 or 22
Brunette lip rouge.....	8 or 22

FOR MEN

Base foundation	28 or 8
Highlight foundation	28 or 3
Shadow foundation	30 or 10
Lip rouge	7 or 21

Your initial make-up kit need not be an expensive affair. You'll need four or five shades of foundation, two or three lip rouges, two eye shadows, two or three shades of powder, brown and black eyebrow pencils, brown and blue mascara, brilliantine, a powder brush, a lip stick pencil or brush, several fine camel or sable hair brushes and several cotton applicators. As your proficiency and familiarity with make-up increases, you'll find yourself adding a jar of one shade or a stick of another until your kit is complete.

Your processes of applying make-up will develop from the compara-



Figure 11. With experimentation you should be able to equal the perfection of this make-up application done by Syd Simons. But then maybe we don't all have girls like Florence George as subjects!

tively elementary one we've discussed to newer and greater heights. This will serve merely as a start on the road to your own experiments, equivalent to those you conduct in your darkroom. And you'll find your prints will soon show your work is headed toward glamour!

Lighting In Mountain Photography

Albert Ervin Thompson

A MOUNTAIN landscape becomes a suitable subject for photography only when it is transformed by a vigorous and appropriate lighting. The mountains and their accessory features provide only the crude form of a picture; its finished pattern and accents are made of light and shadows. Lighting not only reveals, but actually creates, the particular qualities of the subject one would wish to represent in a picture.

Another element of most good mountain pictures, an element related to lighting, is air, the vehicle of one's perception of breadth and distance. The charm of a mountain scene usually arises from the observer's appreciation of the spaciousness of the view and of the majestic size of objects as evidenced by their angular dimensions magnified by their apparent remoteness. The appearance of remoteness is chiefly produced by the cumulative veiling of increasingly distant objects by the visible haze in the intervening air. Not only does this produce the psychological effect of looming, but also there can be no doubt that air contributes additional tones to the scene, and by a general softening effect it enhances the beauty of moderately distant objects. For these reasons, its representation to a moderate degree, at least, is essential in a photograph intended to reproduce the same visual impression and emotive response engendered by the original view.

In the valleys and plains, the atmospheric effect is often too strong for the best results, and can profitably be reduced by the use of deep color filters. In the high mountains, however, the situation is quite different. The higher the setting is above sea level, the more transparent the atmosphere and the less desirable it is to use deep filters in view work, especially with panchromatic film; they should often be dispensed with. The current over-use of filters is resulting in the production of many photos notably lacking in airiness, consequently lacking in the illusion of size and distance, and in interest and charm.



"Desert Erosion"

Albert Ervin Thompson

Strong side lighting, taken about 2:30 P.M. on a clear day in September. Panatomic film, without a filter. As this is a close-up, no "atmosphere" is present.

Normal exposure.

The remotest peaks or the nearest foothills provide excellent photographic subjects when lighted from favorable angles. Success with a certain subject depends upon choosing the right time and season. A scene that merits "Thumbs down" in July may become a prize winner in December, when the sun is lower. A slope that looks like a wall of concrete in the morning may present in the afternoon a startling example of rugged relief or a dramatic succession of light-rimmed ridges separated by luminous atmosphere. The direction and elevation of the sun are of supreme importance.

A good lighting in mountain photography is one that reveals mountain structure, traces outlines, enhances the effects of depth, distance, and size, and that casts a pattern of shadows to give, by contrast, brilliance, life and meaning to the illuminated portions of the scene. Usually unsatisfactory in respect to these requirements are flat lighting, by direct sunlight from behind the camera, and diffused lighting, afforded by overcast skies. The one is hard and glittering, without large shadow areas, the other gray and lifeless; neither give good separation of nearby planes, both are monotonous. I hasten to remark that diffused light is very good for photos of wild flowers and of camping and woodland foreground scenes having plenty of inherent



"Junction Peak"

Albert Ervin Thompson

Junction Peak from Upper Bubbs Creek. Strong side lighting in the background, soft lighting in the foreground, the trees in the near distance shaded by clouds. Previous attempts to get a picture with uniform brilliant lighting failed, because of lack of differentiation between nearby and distant objects. Taken about 8:00 A.M. on a partly cloudy day in August. Kodak Panatomic Film, K-1 filter.

contrast, but such are not true mountain pictures, as considered here. Good pictures of mountain scenery made with flat or diffused lighting are very scarce. The effects of the most promising mountain lightings, each available in unlimited varieties and degrees, I shall now explain briefly.

Side lighting, in which the sun is at the right or left of the camera, serves the photographer by throwing into bold relief the ruggedness of the mountain masses. Ridges, crags, and domes, as well as the smaller irregularities that denote textures, are made to stand out from their backgrounds, their illuminated sides in sharp contrast to their own cast shadows. Side lighting gives good modeling and contrast at medium distances without the necessity of using contrast filters, thus preserving the natural atmospheric effect; it also contributes to the contrast of extremely distant views, aiding the work of color filters. It is especially effective in barren desert ranges where erosion patterns are the most striking features of the landscape. Side lighting is most favorable when the sun is low.



"Bubbs Creek"

Albert Ervin Thompson

Illustrating backlighting. Even though the mountain was so close that a wide angle lens was tilted upward to include it, the recession of planes is satisfactory. (9:00 A.M. in August; Panatomic Film, K-2 filter, partitioned lens-hood used.)

Back lighting, in which the sun is out in front of the camera and at the back of the objects photographed, gives opportunity for pictures in which broad masses and silhouettes are dominant, rather than individual details; it should be used much more than it has been by beginners. Back lighting suppresses detail and textures, but accents the profiles of peaks and ridges. Foreground objects are frequently accented by brilliant outlines against backgrounds of shadow. By making the atmospheric haze more visible, backlighting enhances the atmospheric effect, imparting a veil of mystery to distant peaks and canons; for this reason it is not as suitable as side lighting for the scientific photography of distant objects in which matter-of-fact detail is required, but for the amateur who desires beauty and character in his pictures, rather than literalness in backgrounds, it has alluring possibilities. In taking backlighted photographs one must take pains to avoid disturbing reflections in the foreground, and to see that the sun is not allowed to strike the lens; a good lens hood is a practical necessity. Exposures should be increased to give density to the shadow portions of the negative, because shadows are broad and dominant in this type of pictures.



"Bighorn Plateau"

Albert Ervin Thompson

Typical of the stereoscopic effect obtainable on partly cloudy days, by virtue of the alteration of cloud shadows with lighted areas. About noon in August. Panatomic film pack, K-1 yellow filter. Distance of farthest ridge, twelve miles; general illumination soft. Compare with Bighorn Plateau No. 2.

On partly cloudy days, which are usual in the mountains, the photographer is treated to a type of lighting best described as mottled lighting, in which cloud shadows dot an otherwise brilliant landscape, or bright patches enliven a darkened terrain, according to the relative cloudiness of the sky. Mottled lighting may help the illusion of distance or remoteness by producing a receding alternation of light and dark areas. Its greatest use is in the control of pattern and accents; features of the scene can be suppressed or emphasized merely by waiting until the cloud shadows reach the position to give the desired effect before snapping the shutter. In an hour or two, as the clouds float past, one can obtain a dozen radically different pictures of the same scene without moving the camera. Shadows appear, move, change, and disappear; peaks and ridges spring out from their backgrounds as if by magic, now dark against light, now light against dark, and as quickly merge back into invisibility; valleys unsuspected open to view and again become filled with formless shadow. If you do not have time to wait



"Big Horn Plateau No. 2"

Albert Ervin Thompson

The same view as Bighorn Plateau, taken about thirty minutes later, when the sky had become more uniformly overcast. Note lack of differentiation between foreground and middle distance, and lack of accents. About 12:30 P.M. in August. Kodak Verichrome Film, K-2 yellow filter.

for a special effect, some good ones will be thrust upon you as you travel along. Have the box ready.

Thunderstorms in the mountains afford the best possible chances for making pictures having unique dramatic qualities. Although dull gray skies are usually unfavorable to mountain photography, the same is not true of turbulent ones. The five minutes before a violent rainstorm strikes and the five minutes after the clouds begin to break away are, visually, the most exciting periods provided by Nature and eminently worthy of recording. The sky will provide the necessary contrasts, in some pictures becoming dominant over the terrain, and in others remaining accessory to the darkened landscape. Clouds will not always be above the observer, but frequently drift around and below him, strengthening his feeling of elevation and isolation which may well be carried into his pictures by including such clouds in their composition. Alert observation and tense readiness are



"Storm Breaking"

Albert Ervin Thompson

An example of the contrasts obtainable on stormy days, when too many photographers seek cover. Taken just as the big raindrops and a gust of wind roughed the surface of the water. Panatomic film pack, no filter, minimum exposure.

necessary for the capture of fleeting combinations which will never be repeated.

Observation, discerning observation directed by a sense of what photographic film will do, is the essence of mountain or other landscape photography, anyway. Directions are of no use except to awake and stimulate observation. Look for novel effects; avoid the commonplace. Search out the natural effects that many people enjoy but few take pictures of; avoid the effects commonly regarded as most suitable for small aperture snapshots. Arise early and work late; use both ends of the day for picture taking but rest at midday when the snapshotters are at large. Use time exposures when necessary to get what you want. Remember that good lighting makes good pictures possible; never take a picture of a mountain, no matter what your sentimental reasons may be, unless the lighting is vigorous and interesting; search for the most favorable time. Nothing can give you more pleasure than the fruits of your thoughtful discrimination.

Cinema Section

Edited by

William A. Palmer

Producing 16MM Sound Pictures

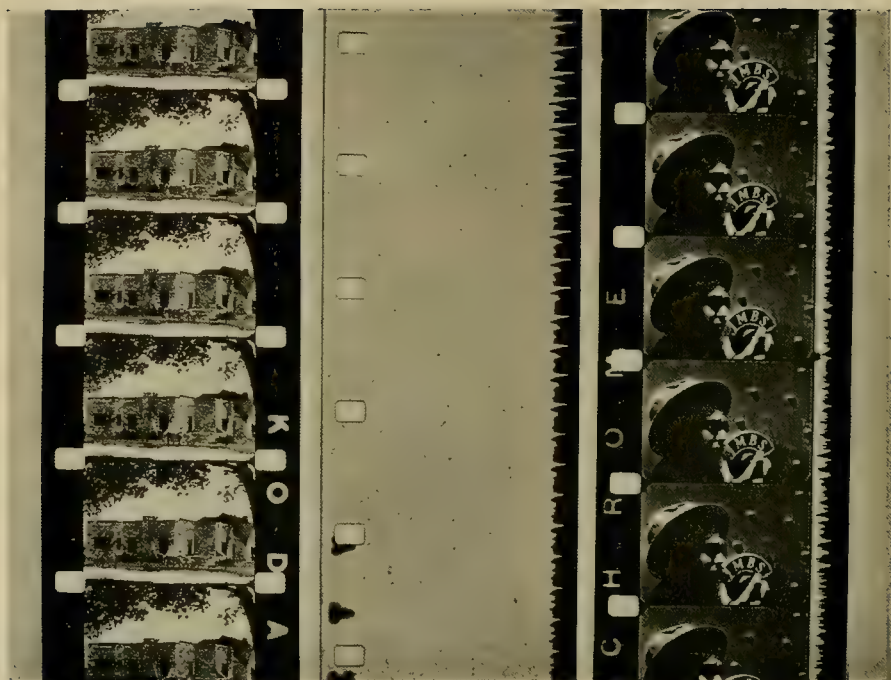
SIXTEEN millimeter sound films are made in many different ways. Perhaps the greatest majority of them in use through film libraries and industrial advertising campaigns are 16mm copies of films originally produced with regular theatrical 35mm cameras and sound channels. The images of both picture and sound track are reduced from the large size film to 16mm in special "reduction printers" and the final results, if the printing is done properly, is a sound film of top notch quality.

But 16mm sound pictures can also be produced successfully by photographing the picture and sound directly on 16mm film instead of using 35mm first and then reducing the negatives to 16mm form. When the large size 35mm prints are not needed for theatrical projection, the 16mm direct production is adequate. This, of course, pre-supposes that the same skill and first class recording equipment are available for the 16mm work.

There are two types of 16mm recording equipment in use, one called the "single system" and the other the "double system." Both systems have advantages and disadvantages depending upon the type of picture that is to be produced. While the ownership of these outfits is limited at present, they are being used more and more for serious commercial or industrial film making. It is of importance for those who may be considering the making of a sound film in 16mm to know the difference between the two systems and what each can or cannot do.

First of all, let us examine a piece of 16mm sound film and the way in which it is run in a sound projector. In figure 1, (C) we see a combination of sound and picture on the same strip of film. Note that as compared with ordinary silent film, there are perforations on one side only. The other set of perforations have been eliminated and in their place is a sound track with its irregular saw-toothed edge.

In figure 2 is shown diagrammatically a typical sound projector film path. There are two optical systems, one for picture and one for sound. As all users of movie equipment know, the film must pass through the picture gate with an intermittent motion. But for sound, the film must be moving with a continuous



A.

B

C.

Figure 1.

motion. It is therefore not possible to pick the sound off the film at the same point where the picture is projected. Instead the machine is designed so that the optical system for the sound is located below the projector lens. In other words, as the film runs through the projector, the picture is projected from one point on the film while simultaneously the sound is taken off at a point some seven inches further along the film path. This means that the sound record for any particular picture frame is not located right along side, but is 26 frames further ahead. Thus, in the strip of film shown in figure 1, (C) the sound record is *not* that for the frames shown but for some other frames occurring 26 frames further along the strip.

The "Single System" Camera

The most logical and simplest method of producing a film on which are recorded both sound and picture, is in a single mechanism where both sound and picture are recorded on a single strip of film. Such a camera is shown in figure 3. In this unit, which is not very different from the ordinary cine camera, the film passes through the intermittent gate where the picture is impressed on the film in the ordinary manner of a silent camera. At the same time the sound is recorded on the film a little further along as it passes continuously over the feed sprocket. The distance between picture and accompanying sound is made 26 frames, corresponding with the separation in the sound projector. This is the arrangement of the R.C.A. sound camera. The DeVry, Berndt-Maurer, Wall, and other 16mm "single system" cameras have similar arrangements.

After a film has been exposed to both sound and picture in such a camera,

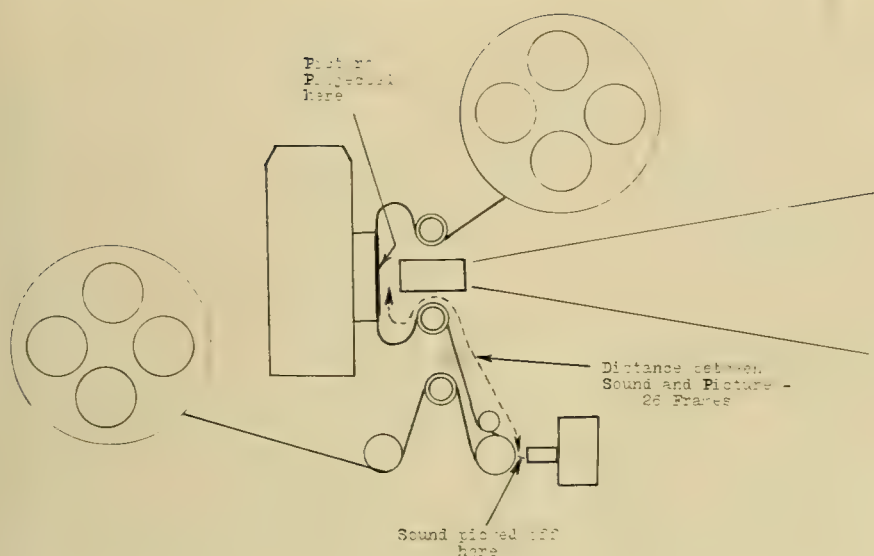


Figure 2.

it is only necessary to process it by reversal, as with any 16mm silent film, and it is ready to be reproduced in the sound projector. The sound and picture are inseparable and synchronism is assured.

This is by far the simplest and cheapest way of producing talking pictures, for there is only one mechanism to look after, synchronism is automatic, and the 16mm reversal sound film costs no more and is no more difficult to process than regular silent film. The "single system" is used on 35mm film by newsreels because of its simplicity and at first thought it would seem that the system would have all the advantages. But when we come to editing the sound film we get into difficulty.

Since the picture and corresponding sound record cannot be placed side by side at the same point on the film, there is always a question of where to cut the film at the beginning or end of a scene. When the film is cut according to the picture, the sound is cut at the wrong place; when cut according to the sound, the picture is cut at the wrong place. When a number of scenes are spliced together, the effect on projection is that the sound change from scene to scene occurs about one second after the scene change. This is not important in many types of pictures where the tempo is slow, but it is very annoying with dialogue if any fast cutting is done. One second lag between the change of picture and sound from scene to scene does not seem very much, but even a second's worth of talking picture with the wrong sound effect is noticeable and annoying.

There is a further and more serious difficulty with the "single system" as far as industrial films are concerned. The majority of advertising and commercial films have a lecture or commentary with a little background music to accompany the film. It is seldom that the actual sounds of the objects shown are recorded. With the "single system" the lecture must be recorded at the time the pictures are taken or at least before the film has been processed. This puts a very serious limitation on the continuity and makes it very difficult to do any cutting or re-arranging of the processed film.

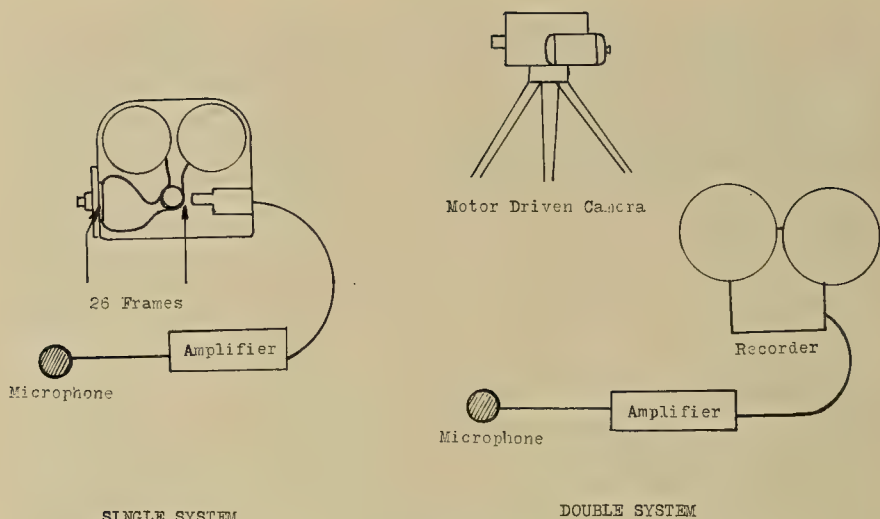


Figure 3.

Early professional talking photoplays were attempted with "single system" cameras, but the difficulty of editing and also the desire for adding other sound effects after the dialogue had been shot, made the adoption of the "double system" in Hollywood the logical thing.

The "Double System"

The "double system" is illustrated in figure 4. Here there are two entirely separate machines. One is an ordinary motion picture camera driven by a special motor of the synchronous type. The other is a recorder which runs a strip of sound film continuously past the recording device. This machine is also driven by a synchronous motor. The two motors are large editions of the type of motor that runs an electric clock. They keep in step with the alternating current supply, always running at an exact speed. Therefore whenever the two machines are turned on, they always are running exactly the same length of film in the same unit of time.

The film used in the picture camera is the regular double perforated silent film as shown in figure 1, (A). The film in the recorder is perforated on one side only and when processed has the appearance of strip (B), a clear film having nothing but a sound track on the edge.

In use the "double system" operates as follows: With both machines threaded with film, the motors are turned on. A short interval is allowed to elapse to make sure that both machines are up to full speed and then the two films are marked (or "singed") by clapping two sticks together in the scene. The picture camera records the instant when the sticks come together and simultaneously a sharp interruption on the sound track indicates the sound made by the sticks. After this marking has been done, the scene can be continued for as long as desired.

If the sound to accompany a certain picture is a commentary it is seldom recorded at the same time as the picture. Instead, the pictures are taken with

an ordinary camera which does not need to be driven by an electric motor. The pictures are processed and edited if desired. The sound track is then recorded in a studio while the pictures are being projected. Proper synchronism is assured by driving the projector with the same type of synchronous motor used for the camera when "lip-synchronized" scenes are made.

The semi-final stage of a film under production by the "double system" consists of two separate films like (A) and (B) of figure 1. Each scene and its proper sound track are kept together on a device called a "synchronizer" which is merely a set of two sprockets on a common shaft. Each scene and its sound track can be cut to length just as if it were a picture film by itself, the simple mechanical problem of keeping the two films together being observed.

When picture film and sound track have been completely matched, the final step of combining the two can be done. A common starting point on both picture and sound track is marked and then the printing operation is made. The two films are successively printed upon a third strip having perforations on one side only. The picture film is printed just as if it were an ordinary silent duplicate, then the film thus exposed is re-wound and exposed in another printer to the sound track. At this point the important step of compensating for the difference of position of sound and picture is made. The sound track is shifted 26 frames ahead of the marked position at which it was matched with the picture. This shifts the start of the sound for every scene on the entire roll so that the film is reproduced on the projector with sound and picture change taking place simultaneously.

Obviously the "double system" is a very much more complicated procedure as well as much costlier, for not only are two separate machines required, but three lengths of film must be used, a great deal more work must be expended in the matching, and a duplicate must be made even if only one copy of the film is desired. Yet, the "double system" is the only feasible one when the "offstage" lecture is to be added to a film after the pictures have been photographed. By this method any owner of a silent camera can make a sound film by taking the picture, (running the camera at the sound speed of 24 frames per second) editing his film, and then going to a commercial studio equipped with the "double system" and have the sound track and the combined sound print made.

For the amateur who wishes to make his own sound recordings, the "single system" camera is by far the best, with all its limitations. By its use the cost of the sound films are no greater than with silent, there is no problem of matching sound track with picture, and the flexibility and ease of operation of the single film outfit has no comparison.

Questions and Answers

Question: Is there any way of replacing beads that have rubbed off a screen?

Answer: We know of no satisfactory way of replacing beads in spots that become damaged. An entirely new screen surface can be installed into your old case for a very reasonable price.

Question: How often should humidor pads be moistened?

Answer: Humidifying is seldom used nowadays, for it has been found to be actually harmful for Kodachrome film. The only time when humidor pads in film cans should be moistened is when black and white film has become dried out after many repeated projections as in a continuous projection attachment. In storing film, be sure to keep it in a cool place and in cans.

WHAT IS YOUR PHOTOGRAPHIC I. Q.?

In the spirit of fun, and as a check up on your knowledge of photography, give yourself the following five minute quiz. If your score is 90% or better it is certain that your photographic education is far above the average. A score of 80% is considered good; 70% is fair. On a score of 60% or less you should draw your own conclusions.

All ten questions are followed with a choice of four answers; all you have to do is figure the correct one. Deduct ten points from a score of 100% for each question you fail to answer correctly. Correct answers will be found on page 388.

1. The Four Print Plan sponsored by the Photographic Society of America is:

- ☐ An attempt to persuade each member to make at least four prints per year.
- ☐ A means of determining the photographers with the best exhibition records in a given period.
- ☐ A plan to limit club submissions to the Print Interchange.
- ☐ A plan to award a prize to the man making the best set of four prints.

2. All other factors remaining normal, prolongation of the developing time of a negative results in:

- ☒ An increase in contrast and density.
- ☐ A decrease in contrast and increase in density.
- ☐ Increase in density with no change in contrast.
- ☐ No change after normal developing time expires.

3. Which of the photographers listed below after having earned an enviable reputation as a still photographer did the major part of the photography on the motion picture "The Wave"?

- ☐ Karl Struss.
- ☐ Ansel Adams.
- ☐ Paul Strand.
- ☐ Willard Van Dyke.

4. If you were making a landscape shot on a slightly hazy day, with panchromatic film and wished to emphasize the effect of the haze, which of the following filters would you use?

- ☐ Red.
- ☐ Green.
- ☐ Yellow.
- ☐ Blue.

5. Three of the processes listed below are commonly used for the hypersensitization of film. Check the one being inconsistent.

- ☐ Prefogging.
- ☐ Mercury Vapor.
- ☒ Solarization.
- ☐ Ammonia Bath.

6. The firm of Morgan & Lester is principally known for their activities as:

- ☒ Illustrative Photographers.
- ☐ Color Photographers.
- ☐ Book Publishers.
- ☐ Magazine Publishers.

7. Which of the figures listed below represent the number of grains to the ounce in the Avoirdupois system.

- ☒ 480.
- ☐ 500.
- ☐ 437.5.
- ☐ 1000.

8. Suppose that you have a lens of 8 inch focal length and wish to obtain a supplementary lens which will convert it to a focal length of 4 inches. Which of the figures below would be the correct focal length for the supplementary lens?

Should it be convex or concave (i.e.: positive or negative)?

- ☒ 2 inches. ☐ Convex.
- ☐ 4 inches.
- ☐ 6 inches. ☐ Concave.
- ☐ 8 inches.

9. Photographic papers are commonly classified according to the silver salt which predominates in the emulsion. The word silver is usually omitted when referring to papers in this way. Thus a paper with a silver bromide emulsion is called "Bromide Paper." Below are listed the three main classifications. Check which is the fastest and which is the slowest. That is, which would require the least and the most exposure under given conditions.

- ☐ Chloro-Bromide.
- ☒ Bromide.
- ☒ Chloride.

10. Which one of the developing agents listed below can be made into a complete developing solution without the addition of an alkali?

- ☐ Hydroquinone.
- ☐ Amidol.
- ☐ Glycin.
- ☐ Pyro.



"At the Cement Plant"

Advanced Medal Print

*Fletcher O. Gould
Pasadena, Calif.*

■ This picture comes upon one almost like a blow—unavoidably swift and forceful. In other words, the picture has tremendous impact, or the quality which William Mortensen calls, quite appropriately, "The command to look." We should not overlook the fact that this effect of great force which one gets simply from the black and white pattern of the print (before one has even had the time to recognize the objects shown) fits in beautifully with the subject matter. Consequently the power and force of great machines is felt, psychologically, even before the picture is fully seen. The composition likewise is extremely dynamic, yet solidly built. All lines lead the eye directly to the conjunction of stack and pipe-line, the point where the figure is placed. It is well to observe one very important detail concerning the figure. Notice that the shadow side of the figure is strongly contrasted against the light tone of the stack. It is only because of this contrast that the figure assumes sufficient power to properly perform its function in the midst of such brilliant and massive surroundings. Cover up the part of the figure which is against the stack and notice how very weak it appears if shown only against the sky. In most pictures the smoke at the top of the print would constitute a weak spot that would be very difficult to control. In this case, however, the composition is so strong that the eye is easily held firmly within the picture space. Technically this print is just about as perfect as one could desire.

Data: 1/50th sec. at F:16, on E. K. Panchro Press with K-2 filter. 11" x 14" bromide print.



"Bricks and Boats"

William Langdon
Chicago, Ill.

Second Award
Advanced Class

■ Mr. Langdon saw and successfully recorded a very interesting pattern in this picture. It was no easy matter to work out a composition which would not leave weak spots about the edges of the picture. For example, there was opportunity for a bad light spot where a bit of the wharf is seen at the top edge of the print, but this tone has been properly controlled. Possibly the seats, in the first two boats, which cut the left edge of the print should be toned down just a little, but otherwise all elements are nicely controlled. The most difficult problem which this picture presents

has to do with the strong line formed by the edge of the wharf. This has to be interrupted at just the right point or the eye will slip out of the picture. If we trim too far in, the line will lead the eye directly out. If we leave too much on the right, the eye will slip out because there would then be quite a large expanse of the light tone of the line bordering the edge of the print, so that the whole upper right corner would become a weak spot. We must discover by careful trial at just what point this main line in relation to lines set up by the boats begins to turn the eye to the left in a circular movement. We think that Mr. Langdon has shown fine judgment in this respect. Because of the activity about the edges of the picture a black border would help.

Data: Rolleicord; Zeiss Triotar lens; Agfa Finopan in Edwal #12; 11" x 14" print on Illustrators' Special, gold toned.



"A Man of the People"

Toso Dabac
Jugoslavia

Third Award
Advanced Class

■ Here is a good example of outdoor portraiture. At first glance the head seems a bit too far to the right in the picture space but as soon as one feels the directional force of the sidelong glance he realizes that the spacing is justified. Perhaps it has been overdone just the tiniest bit but not enough to bother us. Main weakness of the print, as we see it, is the too brilliant tone of the white collar. Surrounded as it is by dark tones, this has tremendous eye-catching power. It could be printed several tones darker and still appear perfectly white to the eye. As a matter of fact, this area is badly underprinted for detail, and texture is lost.

Data: Rolleiflex; Agfa Isopan in Champlin 7; 11½" x 15½" print on E. K. Old Master.

Fourth Award

Advanced Class

■ This picture comes very close to being an abstraction. Subject matter plays a very minor part as such. What we really have is a composition in which the three main curves play against the vertical accents formed by the matches. This arrangement is made doubly interesting because it is laid over the texture of the straw hat. We seldom pay much attention to titles, considering them of little importance since the picture must, in the final analysis, stand or fall by itself. A title will seldom contribute very much to a picture, but a poor title can have a certain negative effect which is something of a disadvantage. The observer reads such a title and then says to himself: "What in the world did he call it that for." He then becomes so preoccupied in puzzling out the title that he pays no more attention to the picture. We are aware of the fact that certain painters have used completely ridiculous titles as bait to get people talking about their work. The Surrealist, Salvadore Dali, for example. We are not considering that aspect of the matter here. We simply feel that the present title is too far-fetched. There is almost nothing in the picture itself to suggest it. Consequently we suspect that for the most part it will function in the negative fashion mentioned above.

Data: 9 x 12 cm. Linhof; Meyer Plasmal, F:4; 1/10th sec., at F:11, on Agfa Isopan, in D-76; weak daylight and T-20 spot light; 11" x 14" print on E. K. Vitava W2, in D-72.



"W. P. A."

Ralph Rex
St. Louis, Mo.

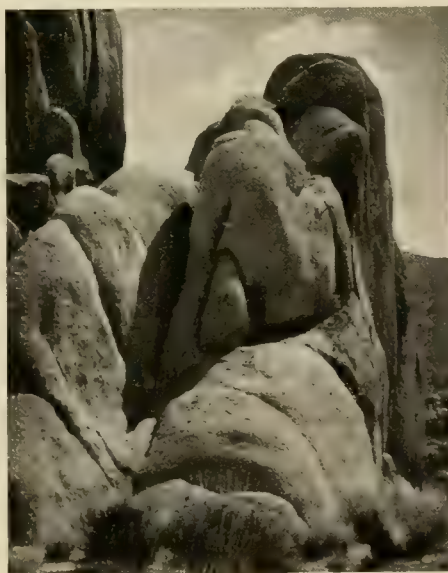
Fifth Award

Advanced Class

■ With material such as this the objective is to find interesting and well related forms, by means of careful selection. The objective is the same when we are working with human figures, even though figure poses are arrived at by a building-up process of continuous adjustment. This statement does not imply that it is at all necessary to search for rock forms which suggest or resemble other things. As a matter of fact, we suspect that the photographer with such an idea in his head is working at a disadvantage. This, because the mind can only really concentrate on one thing at a time. Consequently the photographer who is looking for resemblances is much less likely to find a superlative arrangement of form in the abstract. There is the further danger that the photographer will kid himself into thinking that a striking resemblance will constitute a picture in itself . . . it just won't. If we are to have a picture it must be based on well arranged forms viewed in the abstract. Any resemblances which may appear are secondary matters and may or may not enhance the picture.

Mr. Kaufman has not bothered about resemblances. The forms which he shows

(Continued on page 387)



"Desert Castles"

R. D. Kaufman
San Gabriel, Calif.



"Coming to Rest"

Gordon M. Tranter

Amateur Medal Print

■ Here is a picture which plays up to its subject matter most beautifully. We know the Sea Gull as a wonderfully graceful bird which seems to fly or float through the air almost without effort. Observe how strongly these qualities are brought out in this print. These qualities of grace and buoyancy are the theme, the basis of the picture. Capturing the Sea Gull in an attitude which emphasizes the theme is the first problem, and it has been splendidly solved in this case. We can now observe the secondary characteristics of the picture which may be summed up under the word composition. Here again things seem just right. The diagonal curve of the wings set up a strong and pleasing line, the diagonal movement of which is effectively countered by the diagonal of the ropes. There is a further suggestion of diagonal movement in the delicate tracery of the clouds. These fit into the picture marvelously not only with respect to movement of line but in another way as well. The nature of the clouds and the fact that they occur only in the lower portion of the print, leaving open sky above, seems to suggest the immensity of the domain occupied by our subject. It is also interesting to notice how effectively the picture is unified by the fact that all the lines we have mentioned lead directly to the perch on which the gull is about to light.

Data: 6 x 6 cm. Rolleiflex; Zeiss Tessar lens, exposure at F:5.6 on Selo Hyper-Sensitive Pan; 24 min. development in D-76; medium yellow filter; 11" x 14" print on E. K. Kodabrom G2, in D-72.

Second Award

Amateur Class

■ This picture is attractive because of its simplicity, its fine spacing, and because the luminous quality of the light has been well recorded through good technique. We can learn one useful little trick of composition from this print. Observe that the roof with its shadow constitutes a heavy weight at the top of the print. Then notice how neatly this is taken care of, that is made to appear in balance, by the space below the window box. Take away about half of the space at the base and note how top-heavy the picture becomes.

Data: 9 x 12 cm. Eastman Reocomar; 13.5 cm. Kodak Anastigmat, F:4.5; ½ sec. at F:8, on E. K. S.S. Pan., in D-76; K-2 filter; 2:30 P.M. in July; 11" x 14" print on Agfa Brovira Royal, in D-72.



"A Glimpse o' Scotland"
James W. Kunkle
Lancaster, Ohio

Third Award

Amateur Class



"Outdoor Girl"

Ross A. Ross
San Francisco

■ When we stop to notice the seemingly little things that make all the difference between stereotyped and pictorially successful portraiture it is rather surprising that the volume of good work is not higher. In this case the sweep of wind through the hair, the luminous quality of the outdoor lighting, and the straightforward, honest treatment are the features which lift this picture out of the ordinary. Perhaps we should add that such treatment fits the subject—always a necessary condition. The qualities which this picture possesses are not difficult of attainment.

All that is required is technical competence, plus a willingness to let the picture grow out of the implications of the subject matter. Yet, anyone who reviews a quantity of amateur portraiture cannot fail to notice a terrible straining for effect. Elaborate costumes, extravagant poses and expressions, overly dramatic lightings, control processes poorly executed, a predilection for very unusual faces—these are just a few of the more common tendencies. Such a condition clearly indicates that many photographers are attempting to run before they have learned to walk. They would do well to ask themselves this question: Is this an honest picture? By which is meant, is this a picture which the characteristics of the model, and the nature of the environment are capable of rendering truly and naturally, without artificiality or straining for effect? Mr. Ross can answer that question with a confident "yes!" We would like to see more photographers follow his example. The print should be trimmed from the base until the spot in the lower right is eliminated.

Data: Zeiss Ikonta A; 1/300th sec. at F:11, on Agfa Superpan Press, in Edwal 12; bright sunlight with light yellow filter; 8" x 10" print on E. K. Kodabrom 2.



"White Iris"

*Jack W. Wright
San Jose, Calif.*

Fourth Award

Amateur Class

■ This flower picture is effective because of the simplicity of its arrangement and because the textures of the blossom have been well recorded. These are primary requirements in all such pictures. We believe that the arrangement could stand a bit more weight at the base to act as support for the blossom. We wish to confine our discussion, however, to a consideration of the tone of the background. Admittedly the present very dark tone causes the blossom to stand out with marked brilliance. We venture to suggest, however, that it is possible to have too much of a good thing. In these pieces we often harp about the "implications of the subject matter." The thought implied in this phrase is summed up in the word "empathy," which, briefly defined, means sympathetic understanding of a thing. In this case the outstanding characteristic of our subject is the extreme delicacy of its structure and coloring. If we are to render our subject empathically, that is with sympathetic under-

standing, we must make our picture conform to the delicate nature of our subject. The harsh contrast set up by the dark background is therefore seen to be a violation of empathy.

Data: 11" x 14" bromide print.



"Sisters"

*Lloyd G. Ingles
Durham, Calif.*

Fifth Award

Amateur Class

■ Having tried a few dog pictures ourselves at various times, we are perfectly willing to believe that Mr. Ingles is an animal hypnotist, for how else could he have achieved such a truly remarkable pose. Not only are the two dogs beautifully related to each other, so that they form a very interestingly organized group, but in addition the form of the dogs echoes the form of the rock in truly marvelous fashion. We have seldom seen animals posed in such perfect relation to their environment.

Consequently it is doubly unfortunate that the print is technically poor. It lacks brilliance, the sky tone is too heavy, and necessary tone separations are lost both in the highlights and the shadows. It is evident that part of these shortcomings are due to the fact that the overcast sky provided too weak a lighting. However if this were our negative we would work endlessly with it to get the best possible print.

Data: 6 x 6 cm. Rolleiflex; Zeiss Tessar F:3.5; E. K. Panatomic in D-76; 11" x 14" print on Defender matte, in M. Q. tube developer.

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Ralph Rex, for The Camera Clique; William Langdon, for the Fort Dearborn Camera Club; Toso Dabac, for the Fotoklub Zagreb; and Fletcher O. Gould and R. D. Kaufman, for The Pack Rats.

The following won prizes for their clubs in the Amateur Class: Gordon M. Tranter, for the Calgary Photographic Society; Ross A. Ross, for the E.P.I.C. Group; James W. Kunkle, for the Hocking Valley Camera Club; Jack W. Wright, for the San Jose Camera Club; and Lloyd G. Ingles, for the Kamera Kranks.

Contributing Clubs

Amherst Camera Club (Mass.)	Houlton Camera Club (Maine)
Calgary Photographic Society (Canada)	Kamera Kranks (Durham, Calif.)
California Camera Club (San Francisco)	Knoxville Camera Club (Tenn.)
Camera Clique (St. Louis, Mo.)	Oklahoma Camera Club
Camera Club of Richmond (Va.)	The Pack Rats (Pasadena, Calif.)
Cleveland Photographic Society (Ohio)	Photographic Society of San Francisco
Dayton Photographic Society (Ohio)	Portland Camera Club (Ore.)
Denver Lensmen (Colo.)	Queen City Pictorialists (Cincinnati, Ohio)
E.P.I.C. Group of San Francisco	Rhineland Camera Club (Wisc.)
Florida Camera Club (Tampa, Fla.)	San Diego Miniature Camera Club (Calif.)
Fort Dearborn Camera Club	San Jose Camera Club (Calif.)
Fotoklub Ljubljana (Yugoslavia)	Sierra Camera Club (Sacramento, Calif.)
Fotoklub Zagreb (Yugoslavia)	Yellow Springs Camera Club (Ohio)
Hocking Valley Camera Club (Lancaster, Ohio)	

STANDING OF CLUBS

Large Clubs Advanced Class		Small Clubs Advanced Class	
Fotoklub Zagreb	25	The Pack Rats.....	26
Fort Dearborn Camera Club.....	22	Denver Lensmen	14
Fotoklub Ljubljana	18	Yellow Springs Camera Club.....	5
Photographic Society of San Francisco	4	The Camera Clique.....	2
Miniature Camera Club of New York....	1	Small Clubs Amateur Class	
Large Clubs Amateur Class		Taft Camera Club.....	14
Cleveland Photographic Society.....	11	Calgary Photographic Society.....	13
Photographic Society of San Francisco..	6	Lancaster Camera Club.....	5
California Camera Club.....	5	Hocking Valley Camera Club.....	4
Camera Club of Richmond.....	5	Riverside Pictorialists	4
Miniature Camera Club of Oakland.....	4	E.P.I.C. Group	3
Fotoklub Zagreb	3	San Jose Camera Club.....	2
Sierra Camera Club.....	3	Kamera Kranks	1
Photographic Society of India.....	2	Norfolk Photographic Club.....	1

(Continued from page 383)

here are fairly interesting but not outstandingly so. The print should be trimmed until the horizon line seen at the right is eliminated, for this space at the right tempts the eye to slip around the side of the rock form to inspect the hillside beyond, which is not properly a part of the picture at all.
Data: Defender XF Pan., in DK-50; 11" x 14" print on Defender DL, in M. Q., sepia toned.

Correspondence

"For Smaller and Better Salons"

Dear Mr. Young:

In conducting the Memphis Salon of Photography we have tried to carry out something of the spirit expressed in Mr. Anderson's article "For Smaller and Better Salons." (June Camera Craft.) Have received a very severe criticism from one of the editors of a popular camera magazine for allowing the jurors to be so drastic in their judging and for not hanging about 200 out of the 640 prints received. I still agree with Mr. Anderson and think it much better to have a small salon of about 100 prints of high quality (we have hung 90) than to have a mediocre show of 200 prints or more. . . . We want our salon to be known as one of high standing, and hope to keep it that way. Any suggestions will be appreciated.

Very truly yours,

Avery N. Stratton.

Do Camera Craft readers feel that the standards of salon acceptance should be raised?—Ed.

ANSWERS TO "WHAT IS YOUR PHOTOGRAPHIC I. Q.?"

From Page 380

1. A means of determining the photographers with the best exhibition records in a given period. Photographers subscribing to the Four Print Plan agree to submit no more than four prints to a Salon. Their exhibition record is then based on the percentage of acceptance. Older forms of arriving at such rating have been based almost entirely on quantity (number of prints hung). This plan is an attempt to make quality count. Photographers can take part in the Four Print plan whether they are members of the Society or not. For full information address David R. Craig, 4434 Garfield St., N. W., Washington, D. C.
2. An increase in contrast and density. Prolonged development will obviously result in a heavier deposit of silver thus increasing density. As development continues the shadow portions which received little exposure will reach full development and stop. The highlight portions which received much exposure will continue to deposit silver, becoming more and more dense in relation to the shadow portions, thus increasing the contrast of the negative. This process, of course, can only be continued up to the point where chemical fog becomes a factor to be reckoned with.
3. Paul Strand. Each of the men named are well-known for their work as still photographers. Ansel Adams is one of the more articulate members of

"Group F:64," author of the book "Making a Photograph" and numerous magazine articles in this and other magazines. He is official photographer for Yosemite Valley and is particularly famed for his fine winter scenes. Karl Struss is a pictorialist of long standing, originator of the Struss Soft Focus lens. He is now one of Hollywood's foremost motion picture cameramen. Willard Van Dyke, also a member of "Group F:64," is now living in New York. He has done much fine still work but has lately turned his attention to motion pictures. He did much of the photography on "The River" and is now working in a new film producing organization known as American Documentary Films, Inc. Associated with him are Ralph Steiner, Raymond Rich and Donald Slesinger.

4. Blue. Water particles in the atmosphere, which constitutes haze, reflect blue light for the most part. Consequently to emphasize the haze (make it appear light in the print) we want a blue filter which will pass blue light and hold back red and green. Much the same effect could be obtained, of course, by using color blind film, a less pronounced effect by using orthochromatic film.
5. Solarization. This refers to a reversal of the image due to extreme overexposure. Partial Solarization has been used to produce novel effects in the print, a prominent exponent of this method being Max Ray who works in Paris.
6. Book Publishers. Morgan & Lester published the "Leica Manual," one of the most popular and useful books on the market today. They have just brought out "Miniature Camera Work," a splendid book which gives every indication of equaling the success of their first effort. In addition Willard D. Morgan is editor of amateur photography for "Life," and Henry M. Lester does much scientific photography. Both are acknowledged authorities on miniature photography.
7. 437.5.
8. 8 inches. Convex. The focal length of the supplementary lens may be calculated by multiplying the desired focus by the actual focus and dividing their difference. In the example given the calculation would be: $4 \text{ (desired focus)} \times 8 \text{ (actual focus)} \div 8 - 4 \text{ (the difference)} = 4 \times 8 \div 8 - 4 = \frac{32}{4} = 8$ inches, the required focal length of the supplementary lens. If we desire to reduce the focal length we use a convex or positive lens. To increase the focal length use a concave or negative lens. In either case the calculation is the same. Consequently if we wished to increase a lens of four inch focus to 8 inches the above calculation would hold but we would use an 8 inch concave lens. The above calculations are not strictly accurate since the separation of the lenses should be taken into account. The rule is, however sufficiently correct for all practical purposes. Since the focal length is changed while the diameter of the stop remains constant the "F" values must be calculated anew.
9. Bromide fastest. Chloride slowest. Chloride papers are commonly used for contact printing, bromide for enlarging. Chloro-bromide papers are used for both purposes and are of intermediate speed.
10. Amidol. The alkali commonly used in a developing solution is Sodium Carbonate. In the presence of Amidol, and to a lesser extent with Metol, Sodium Sulphite acts both as a preservative and as an accelerator. Consequently sodium carbonate is not required. Amidol is commonly used as a pre-developer, giving good blue-black tones. It is not kept and should be thrown away after using.

Club Notes

Forthcoming Exhibitions

83rd Annual Exhibition of the Royal Photographic Society of Great Britain. Address The Secretary, The Royal Photographic Society, 35 Russell Square, London, W. C. 1, England. Closing date July 29, 1938, limit 4 prints. September 10 to October 8, 1938.

Second International Exhibition of Photography at Luxembourg. Address Mr. Martin Dellere, 61 avenue Guillaume, Luxembourg (Grand-Duchy). Closing date August 5, 1938. Entry fee 4 belgas. Limit 4 prints. September 23 to October 10, 1938.

Seventeenth Annual "All-American Photographic Salon." Address James S. Lawshe, 404 Standard Oil Bldg., 10th & Hope Sts., Los Angeles, Calif. Closing date August 20, 1938. Entry fee \$1.00, limit 4 prints. September 11 to 30, 1938.

Sixth International Salon of Pictorial Photography. Address Fotoklub Zagreb, Masarykova 11, Zagreb, Yugoslavia. Closing date August 20, 1938. Entry fee \$1.00, limit 4 prints. October, 1938.

Ninth Chicago International Salon of Photography. Address Salon Committee, Chicago Camera Club, 137 N. Wabash Ave., Chicago, Illinois, U. S. A. Closing date August 24, 1938. Entry fee \$1.00, limit 4 prints. October 1 to 31, 1938.

4th International Salon for Pictorial Photography, Amsterdam. Address Focus, Ltd., Fotosalon, Bloemendaal, The Netherlands. Closing date August 25, 1938. Entry fee 2.5 florins, limit 5 prints. October 1 to 16, 1938.

The London Salon of Photography. Address The Hon. Secretary, London Salon of Photography, 5a Pall Mall East, London, S. W. 1, England. Closing date August 31, 1938. Entry fee 5s. September 10 to October 8, 1938.

Third Western Ontario Salon of Photography. Address A. E. Adams, Salon Secretary, The London Camera Club, 212½ Dundas St., London, Ontario, Canada. Closing date August 31, 1938. Entry fee \$1.00. Limit 4 prints. September 12 to 17, 1938.

South African Salon of Photography. Address Secretary, South African Salon of Photography, P. O. Box 7024, Johannesburg, South Africa. Closing date September 1, 1938. October, 1938.

The Hounslow Photographic Society International Exhibition. Address Exhibition Secretary, The Hounslow Photographic Society, 357 Whitton Dene, Isleworth, Middlesex, England. Closing date September 3, 1938. Entry fee 2/6d. September 21 and 22, 1938.

The Fifth Canadian International Salon of Photographic Art. Address Exhibition Secretary, Canadian International Salon of Photographic Art, The National Gallery of Canada, Ottawa, Canada. Closing date September 10, 1938. No entry fee. Limit 4 prints. October 21 to November 13, 1938.

Twelfth Annual Open Exhibition of the Lincoln Camera Club. Address Hon. Exhibition Secretary, F. J. Codd, 309 Burton Road, Lincoln, England. Closing date September 10, 1938. Entry fee one shilling per print. October 6 to November 30, 1938.

Fifth International Salon of Pictorial Photography, Budapest. Address Jozsef Ferencz, rakpart 17, Budapest IV, Hungary. Closing date September 15, 1938. Entry fee \$1.25, limit 4 prints. October-November, 1938.

Thirteenth Annual Exhibit of Photography, Museum of Fine Arts of Houston. Address James Chillman, Jr., Director, Museum of Fine Arts of Houston, Main and Montrose Blvds., Houston, Texas. Closing date September 24, 1938. Entry fee \$1.00, limit 4 prints. October 9 to 30, 1938.

First Annual New Hampshire Salon of Photography. Address F. L. Evans, 599 Hanover St., Manchester, New Hampshire. Closing date September 30, 1938. Entry fee \$1.00, limit 4 prints. Open to all residents, temporary or otherwise, of New Hampshire.

The Ninth International Photographic Salon of Japan. Address The International Photographic Salon, Tokyo Asahi Shimbun, Tokyo, Japan. Closing date September 30, 1938. Entry fee \$1.00, limit 3 prints. November 1938.

Windlesham Camera Club Open Exhibition. Address The Hon. Secretary, Hallgrove, Bagshot, Surrey, England. Closing date October 1, 1938. October 20 to 22, 1938.

The New York Salon of Photography. Address the Salon Committee, The Camera Club, 121 West 68th St., New York, N. Y. Closing date October 1, 1938. Entry fee \$1.00, limit 4 prints. October 30 to November 20, 1938.

Third Philadelphia Photographic Salon at the Art Alliance. Address Salon Secretary, Philadelphia Art Alliance, 251 South 18th Street, Philadelphia, Pa. Closing date October 24, 1938. November 15 to December 4, 1938.

Sixth Syracuse International Salon. Address Herbert N. Baker, Salon Director Camera Club of Syracuse, 340 Montgomery St., Syracuse, N. Y. Closing date November 4, 1938. Entry fee \$1.00, limit 4 prints. December 4-31, 1938.

First International Salon of Photography. Address H. Lott, Salon Chairman, Munson-Williams-Proctor Institute, Utica, New York. Closing date December 5, 1938. Entry fee \$1.00, limit 4 prints. January 8 to 30, 1939.

The Des Moines Fourth Annual International Salon of Photography. Address Leo H. Smith, Y.M.C.A., Des Moines, Iowa. Closing date December 14, 1938. Entry fee \$1.00 limit 4 prints. January 1 to 24, 1939.

Photographic Society of America

Built on the solid foundation laid by its predecessors, the new administration of the Photographic Society of America, headed by Frank Liuni, president, has been laying the groundwork for changes and new features of far reaching importance. The first to be completed is a revision of the rules of the Society.

Provision has been made for Associate Membership with dues of \$3.00 a year. Active Membership is unchanged and the dues remain at \$5.00 per year. The system of Honor Membership to be conferred by the Society in recognition of superior photographic merit has been set up and includes Fellowship, Honorary Fellowship and Honorary Membership.

Another change was made to permit Regional Organizations of Camera Clubs to join the Society, thereby giving each of their member clubs a right to inscribe themselves as affiliated with the Photographic Society of America.

The Metropolitan Camera Club Council, Inc., of the New York Metropolitan Area, which has approximately 90 member clubs, has already been elected to membership under this provision.

Plans for the establishment of headquarters in New York from which new services for the members will be conducted are now being pushed and also plans for issuing the Society's Journal as a monthly with an increase in size.

Rochester, N.Y., capitol of the photographic industry, has been selected as the place for the 1938 Convention of the Society. The dates are October 15th and 16th. A comprehensive program is being planned and there is every indication of a record attendance. The Convention will be under the auspices of the Rochester Technical Section of the Society, of which Mr.

John W. McFarlane is president. Information about the Society may be obtained from Mr. B. H. Chatto, secretary-treasurer 1300 Milton Avenue, Pittsburgh, Pa.

Leases New Quarters

After twenty-six years at their Sanson Street address, the Photographic Society of Philadelphia, a 75-year-old organization has leased new quarters in the Crozer Building, 1420 Chestnut Street, Philadelphia, Pa.

Members expect to be completely settled in their new location by early fall and the 2400 square feet of floor space promises them ample room for splendid new dark rooms, a studio and a large meeting hall.

"Columbia Camera Club"

(Mondays, 9:30 to 9:45 P.M. P.S.T.)

Camera fans are invited to join other listeners to stations of KNX-Columbia Pacific Network each Monday at 9:30 p.m. when Maurie Webster will focus attention on the "Columbia Camera Club" program which started June 20.

Neither too technical to confuse the average snap-shooter nor too elementary for the expert cameraman, the program will present celebrities who make pictures for a hobby as guest stars as well as anecdotes of amusing photographic experiences had by members of the "Columbia Camera Club." They also will find it possible to exchange hints that make for technical success.

Other activities besides listening to the new CPN program are contemplated for members of the "Columbia Camera Club," which will be explained on the program by Webster, who himself is an amateur shutter-clicker.

This program is available to the entire Columbia Pacific Network. (KNX, KSFO, KOIN, KVI, KIRO, KFPY, KGVO, KOH, KGAR, KFBB, KOY, KROY, KARM.)

Notes and Comments

Wholesale Radio Service Co. Opens Camera Department

Wholesale Radio Service Company of 100 Sixth Avenue, New York has established a complete camera and photographic supply department. A large variety of still and motion picture cameras, projectors and enlargers as well as accessory equipment will be found in the new department.

Wholesale's Spring Catalog, just off the press, contains a comprehensive listing of cameras and supplies for both still and motion picture photography. Copies of the new catalog may be obtained by calling at, or writing to Wholesale Radio Service Co., Inc., 100 Sixth Avenue, New York City; 901 W. Jackson Boulevard, Chicago, Illinois; 265 Peachtree Street, Atlanta, Georgia; 110 Federal Street, Boston, Massachusetts; 219 Central Avenue, Newark, New Jersey; 542 East Fordham Road, Bronx, New York, or 90-08 166th Street, (Merrick Road) Jamaica, Long Island, N. Y.

New Bee Bee Negative Viewer Has a Frame for Color Slides

Burleigh Brooks, Inc., of 127 West 42nd Street, New York City, announces a new convertible Bee Bee Negative Viewer which has a special frame for viewing DuPontcolor and Kodachrome color slides up to 2 inches square—in addition to a regular track for viewing 35 mm. films. By using auxiliary tracks, either 8 mm. or 16 mm. film can also be inspected.

A 4X magnifying lens is mounted in an adjustable metal tube which may be removed and used as a low power microscope.

This new model sells for a little more than the regular Bee Bee Negative Viewer, which is still available.

Solar Precision Miniature Enlarger

Miniature photography with its small diminutive negatives has made us all extra conscious of the improved results to be secured by the careful processing of our negatives. All of which brings us to the Solar Precision Miniature Enlarger now being distributed by Burke and James, Inc., 223 W. Madison Street, Chicago. Aside

from all the regular features the Solar Model 2 is fitted with adjustable condensing lenses. This adjustment feature enables the operator to concentrate the effective volume of light, i.e., the converging cone of light through the negative to pick up all detail and tone variation in the projected print. The all-metal negative carrier also warrants special mention. It firmly clamps the negative between two die-cut openings, holding it perfectly flat during the exposure. No glass or other covering is used, eliminating the subsequent spotting of dust spots, etc. This unit, because of its rigid construction, is ideal for enlarging from Kodachrome for the wash-off relief process—or for handling color separation negatives direct. Write Burke and James, Inc., 223 W. Madison Street, Chicago, for full details.

Chess-United Co. in New Quarters

The Chess-United Company, distributors of Imperial camera, print dryer, and agitator, precision Omag filters, the Ideal, Supermultifax, and Laborant enlargers, etc., announce their removal to new and larger quarters. Formerly at the Mohawk Building, 21st Street and Fifth Avenue, New York City, their new headquarters are in the Emmet Building, 29th Street and Madison Avenue, New York City.

Pic-Sharp

Pic-Sharp is the name of a new aid in ground glass focusing, retailing for \$1.00. It has just been introduced to the photographic world by R. P. Cargille of 118 Liberty Street, New York, makers of the famous \$2.00 See-Sharp.

The Pic-Sharp assures needle-sharp focusing in much the same manner that the See-Sharp does for enlargements.

It is made of soft pliable rubber which means it is absolutely unbreakable . . . it has a highly magnifying lens in the center and is small enough to fit into the smallest kit or vest pocket.

This item was shown to photographic experts in some of the leading stores and received instantaneous acceptance.

The Cargille organization is to be further congratulated on this new item which will not scratch the finest glass or equipment. We predict a real welcome from camera fans for this new innovation because it is an outstanding achievement in ground-glass focusing.

Kodak 16mm. Enlarger

A compact new enlarger for making black-and-white negatives from single frames of 16mm. motion pictures is announced from Rochester by the Eastman Kodak Company.



Kodak 16mm. Enlarger

Operation of this device is so simple that errors are almost impossible. Negatives may be made in a few seconds from either black-and-white film or Kodachrome, and from these enlarged negatives both contact prints and greater enlargements are possible. Owing to the extremely fine grain of laboratory-processed reversal film, and the absence of silver grain in Kodachrome, the enlarged negatives from the tiny movie frames are of excellent technical quality.

The enlarger is of particular value to the amateur movie enthusiast who possesses no darkroom or other facilities for making enlarged "stills" from his 16mm. reels. It permits the making of a series of negatives in rapid succession, and eliminates the need of immediate processing. The enlarger loads with a standard daylight-loading film roll, which can be de-

veloped at leisure by the maker, or sent to a photo-finisher.

One of the major virtues of the new device is that it facilitates the making of enlarged "stills" at the time the movie reel is edited. Heretofore, this work has involved delays, troublesome darkroom work, re-cutting of the film reel, frequent loss of good frames, additional splicing, and other annoying, time-consuming operations.

Aside from production of prints for album use or for mailing to distant friends, the enlarger has a variety of uses. Prints from the enlarged negatives, either black-and-white or tinted, can be utilized as title backgrounds. The clever experimenter will find possibilities in enlarged "montage" negatives from two or more frames, and in the use of filters to obtain special effects when enlarged negatives are made from Kodachrome transparencies. Prints can also be used in a titler for lengthening scenics or interior views in which there is no movement.

The enlarger is constructed, for compactness, in the form of a folding Kodak, and is loaded and operated in much the same way. A film gate, mounted before the enlarger lens, has a mask opening the exact size of the 16mm. frame. The film is positioned over this opening, between guide pins. A locating pin engages one perforation, keeping the film in exact alignment. There is no cutting of the movie film. After positioning, the cover of the gate is closed, and a brief exposure made by incandescent light.

With a film frame of average density, a five-second exposure is correct with "SS" Pan film, when the film gate is held five inches from a No. 1 Photoflood lamp. Photoflood light is most suitable for enlarged negatives from Kodachrome. The enlarger loads with 616-size Kodak film, and eight negatives are obtained from each roll, each negative $2\frac{1}{2}$ by $3\frac{3}{8}$ inches. Full operating instructions are included with each enlarger.

The retail price of the Kodak 16mm. Enlarger is \$15.

The Halldorson High-Low Transformer

The Halldorson High-Low Transformer, manufactured by the Halldorson Co., 4500 Ravenswood Avenue, Chicago, Ill., makes

possible for you to put your ordinary house lights to a variety of photographic uses. The High-Low Transformer makes any 25 to 100-watt electric light bulb operate like a photoflood, as it steps up the light to approximately ten times its original intensity. It may also be used to lengthen the life of regular photoflood bulbs by stepping down to half voltage. The High-Low Transformer also makes it possible to use a 25-watt bulb for enlarging or printing, thus preventing heat and economizing light. It varies the light by three intensities and sells for \$8.75, with receptacles for three lamps. See the Hall-dorson High-Low Transformer at your dealers or write for further details to the Hall-dorson Co., at the above address.

Kalart Synchro Sunlight Contest

The Kalart Co., 915 Broadway, New York City, announces the Second Annual Kalart Synchro Sunlight Contest, with \$250 in cash prizes. Any Speed Flash photograph exposed in combination with daylight and taken by the entrant with a Kalart Photoflash Synchronizer is eligible for the contest. Closing date is November 1st, 1938 and judges will be Willard D. Morgan, Herbert C. McKay and Kip Ross. Write the above address for your entry blank now.

The Kalart Company are also distributing, upon request, a pamphlet describing the use of Kalart Photoflash Synchronizer Synchro-Sunlight Photography. It contains helpful information on the methods of use and data on exposures.

Champlin No. 15 in New Package

Those who use Champlin's famous No. 15 formula in its dry chemical form will be interested to learn that it is now supplied in an attractive, green and white, compact package. The new package is now available at your local dealer's. Of course, Champlin No. 15 is also available in liquid form, as usual, ready for use.

Argus Offers Clever Combination Screen Kit

Camera fans everywhere, interested in the new vogue of projecting their 35mm. miniature camera negatives on the screen, can now entertain family and friends in this way at slight expense. This popular method of showing interesting shots to



Arguscreen Kit

whole groups at one time without the inconvenience of passing around albums or loose prints is now brought within the reach of almost every miniature camera owner through the introduction of a clever, low-priced combination screen kit by the makers of Argus Speed Cameras.

The Arguscreen Kit includes one of the new 100-watt portable CP Argus projectors, with slide box of 100 capacity, and an adjustable projection screen 30" x 32" made of finest quality flexible movie screen material, all compactly enclosed in a sturdy protective carrying case no larger than a violin case, at a total combination price of only \$30.

The International Research Corporation, Ann Arbor, Michigan, producers of the Arguscreen kit, offer the assurance that the screen will not discolor or crack. It gives pictures extreme brilliance with perfect depth and, in the case of color pictures, perfect color gradation. There is no distortion even when pictures are viewed from an acute angle. The entire Arguscreen kit weighs only 11¼ lbs.

The Argus CP Projector has a high quality color corrected lens of four-inch focal length. It is a handsome, compact, easily portable and easily operated projector which fits neatly into the combination kit case. The projector with slide carrier may be purchased separately for \$15. The screen, the case and the portable indexed slide-box, without the projector, may also be purchased separately for \$15.

Good News For Dealers

New neckties, fresh shaves and a general sprucing up will shortly be the order of the day for all northern California dealers, for Phil Lasher, the "Old Maestro" of



Doris Rogerson

Western Movie Supply Co., has decided to put a little sunshine into their lives in the person of Miss Doris Rogerson. Expect a call any day now boys, for Doris is all set to take over the territory. The West coast's one and only photographic saleslady has a past record of marked success as a store manager so she knows the dealers' problems thoroughly. She was first associated with the late Walt Adams on 12th Street, in Oakland, and moved with him to 14th Street when he bought out the store started by Albert Davies. On the death of Mr. Adams, Miss Rogerson became manager of the photographic department in Smith Bros., and was drafted from there to

open the new Camera Corner, which she built into a very successful store.

Southern California dealers will be interested to learn that Perce Bolman is taking up permanent quarters in Los Angeles, so that Western Movie Supply Co. will be better able to serve the interest of its customers in that locality. This news is so new that we can't tell you yet what Perce's address will be, but he will get in touch with you soon, no doubt.

The Bunnell Studio & School of Photography

The Bunnell Studio and School of Photography, 2502 West 7th Street, Los Angeles, Calif., offers a wide variety of courses for both beginners in photography and advanced students. Courses are available from simple instruction in darkroom technique to a complete professional course requiring six and one-half months of instruction. Instruction is thoroughly practical, incorporating practice in technique and the actual taking of pictures under guidance of an instructor, so that every student finishes a course with a group of finished pictures.

Readers of Camera Craft will recognize Mr. Walter Bunnell as the contributor of several fine articles to our magazine's pages and work is done under his personal direction.

Visitors are cordially invited to inspect the school and literature describing the courses may be had upon request by writing the above address.

Lerochrome Color Candid Camera Makes Debut

Now, at last a revolutionary step in color photography — yes — even in photography itself — is the new Lerochrome One-Shot Color Candid Camera. Up to the present moment, there were many obstacles which prevented the amateur photographer from taking color shots which he could develop and print on photographic paper in his own darkroom. The obstacles are removed with this camera which uses the same basis as Technicolor except that it is not shown on the screen . . . but rather it is printed on paper.

Today, the real money in photography seems to be in direct color shots, not color film transparencies, but color photographs



Perce Bolman

in photographic paper and from three-color separation negatives that are taken in one exposure with the newly developed Lerochrome Separation Camera. Direct color shots with the Lerochrome Camera command big money and are in constant demand by commercial advertisers.

A Densitometer accompanies each Lerochrome Camera. The densitometer accompanying each Lerochrome Camera balances the color values. If you can develop ordinary black and white negatives, you can easily master the art of making natural photographs on paper. It requires no special training. The densitometer control of this new camera even supplies the exposure ratio for projection or contact prints. The camera takes pictures $2\frac{1}{4}" \times 3\frac{1}{4}"$, which can be enlarged up to $11" \times 14"$ without loss of detail or color rendition. A complete course in color photography, as well as a densitometer for reading the negatives, is included with each camera.

The Lerochrome Camera is precision-built, of one-piece cast aluminum, finished in a rich chocolate brown crackle, with chromium fittings. Comes in a handsome plush-lined case. The camera carries every guarantee of the manufacturer, the International Research Laboratory, 228 Seventh Avenue, New York City.

Mortensen Texture Matrix Now \$10.00

The Oxford Products Co., of Beverly Hills, Calif., exclusive distributors of the Mortensen Texture Matrix, announce that this hand-etched matrix is now available at the low price of \$10.00. Though the matrix formerly sold for \$15.00, this tremendous reduction in price has been made possible by an improved hand-method of accurate reproduction. The new price will bring the matrix within the reach of many more photographic enthusiasts. The matrix is supplied with case and complete instructions for its use by William Mortensen, which is illustrated by an example of Mr. Mortensen's work. See the Mortensen Texture Matrix at your dealer's or write the Oxford Products Co., Beverly Hills, Calif., for further details.

The Photo-Lab Filter Meter

The Photo-Lab Products Co., 2916 Pioneer, Cheyenne, Wyo., announce their latest product, the Photo-Lab Filter Meter.

The meter is an instructive and informative piece of equipment that gives filter factors and a visual interpretation of the appearance of outdoor scenes when photographed through any filter on any emulsion. Tables incorporated show factors for all Eastman and Agfa films, with all filters. The meter is small enough to be carried readily and durable enough to stand considerable abuse. Information is segregated simply and easily and the Photo-Lab Filter Meter will sell for \$2.50.

September 2nd Closing Date on Royal \$2,000 Contest

Pictures of people writing, writing anything, anyhow, are all that you need to enter the Royal Typewriter Co., \$2,000 Photographic Contest. First Prize, \$150; second prize, \$100; third prize, \$75; fourth prize, \$50; fifth prize, \$25, and there are 95 additional \$10 and \$5 prizes. Closing date is midnight, September 2nd, 1938, and entry blanks and complete contest rules may be had at your nearest Royal Portable Typewriter Dealer's or from the Royal Typewriter Co., Inc., 2 Park Ave., New York City. Here's a tip on how to double your prize money . . . if you have a prize-winning picture that shows a Royal Portable Typewriter in use, it will win double money.

Stanrite Tripods

The Testrite Instrument Co., 57 East 11th Street, New York City, are manufacturers of the Stanrite Tripods and Panrite Tilting Tops. Stanrite Tripods are supplied in two models selling for \$7.50 and \$10.00, and Panrite Tilting Tops are also available at two prices, \$5.00 and \$8.00. The equipment is of sturdy, durable construction, assuring steady, rigid support from any angle. See the Testrite Products at your dealer's or write for a descriptive circular to the above address.

Weston Exposure Meter Dial Equipped For High Film Speeds

The calculator dial on the Weston Exposure Meter (Model 650) has recently been modernized to show film-speed settings as high as 250 Weston. This increased range of values goes considerably beyond any of the new ultra-speed films now available, or any which are likely to be introduced in the future, it is claimed. As an

example, the Weston film speed for the new Agfa Ultra-Speed Film is 64 Weston.

Weston exposure meters with the former dial plate on which 40 Weston is the top film-speed rating can easily be used for the super-speed films simply by shifting the dial a proportionate distance beyond the final value. If desired, however, the original dial can be replaced with one of the newer type by returning the meter to the Weston Electrical Instrument Corporation through your local photo supply dealer.

This change will be made at a charge of \$2.00 if the meter is returned solely for this purpose, or for 50 cents if it is in conjunction with other repairs on Model 650.

Summer Course in Photography In San Francisco

Individual and class instruction in portrait lighting, darkroom technique, retouch-

ing and finishing has just been announced for the months of July, August and September by Dorothy Moore, photographer, 278 Post Street, San Francisco, Calif. Here students will have an opportunity to work under ideal conditions under the guidance of an excellent and experienced photographer. Dorothy Moore is not just an ordinary photographer by any means as those who have seen her work will quickly testify. She had a thorough art school training before taking up photography, and since doing so has continuously devoted intelligent study and experimentation to the artistic problems of photography. This mature artistic understanding is coupled with a firm grasp of photographic technique. The combination makes for an ideal instructor. Address communications to the above address or phone EXbrook 7688.

Our Book Shelves

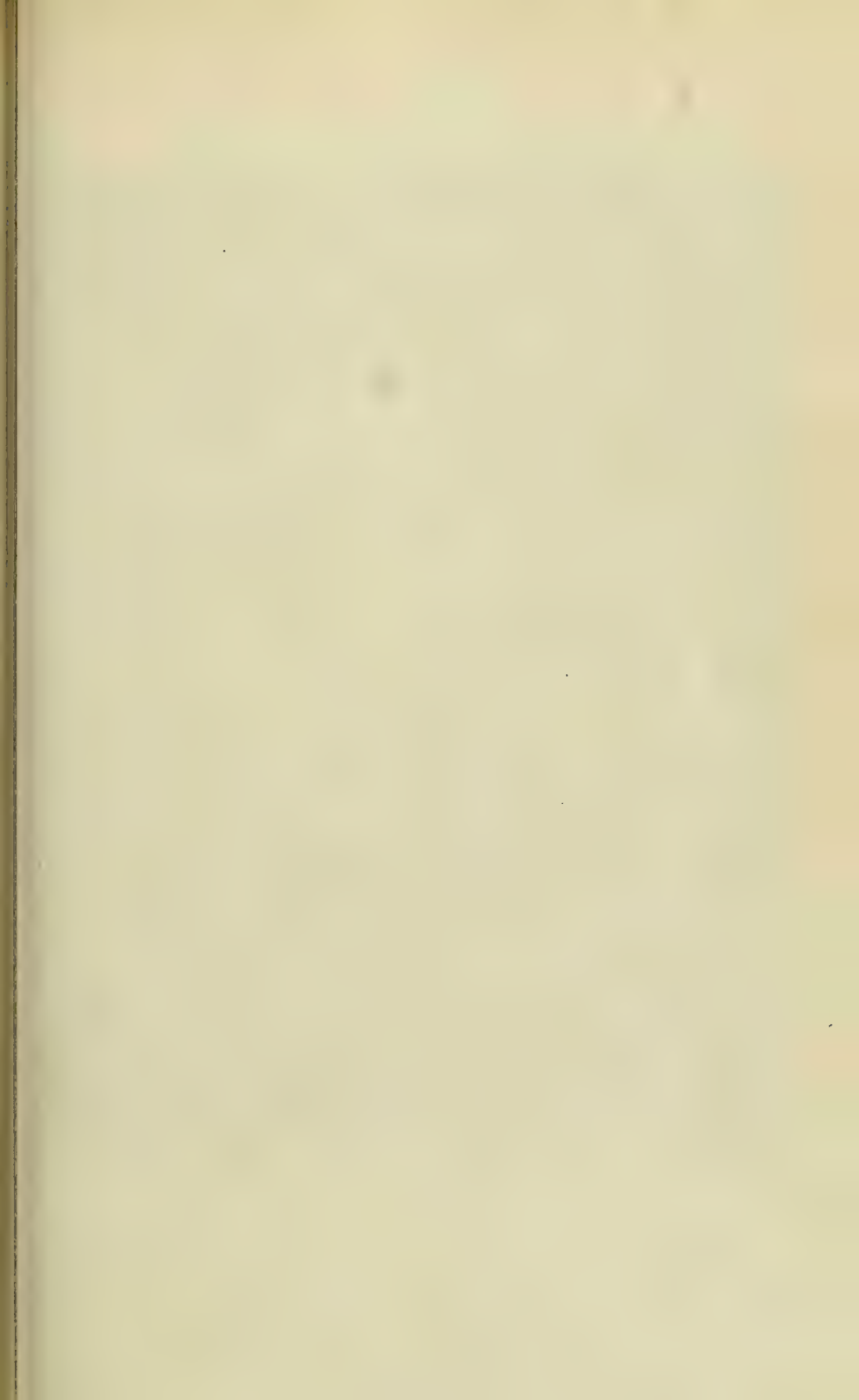
Miniature Camera Work. Published by Morgan & Lester, New York. 310 pages, 8½" x 11", boards. Price \$4.00.

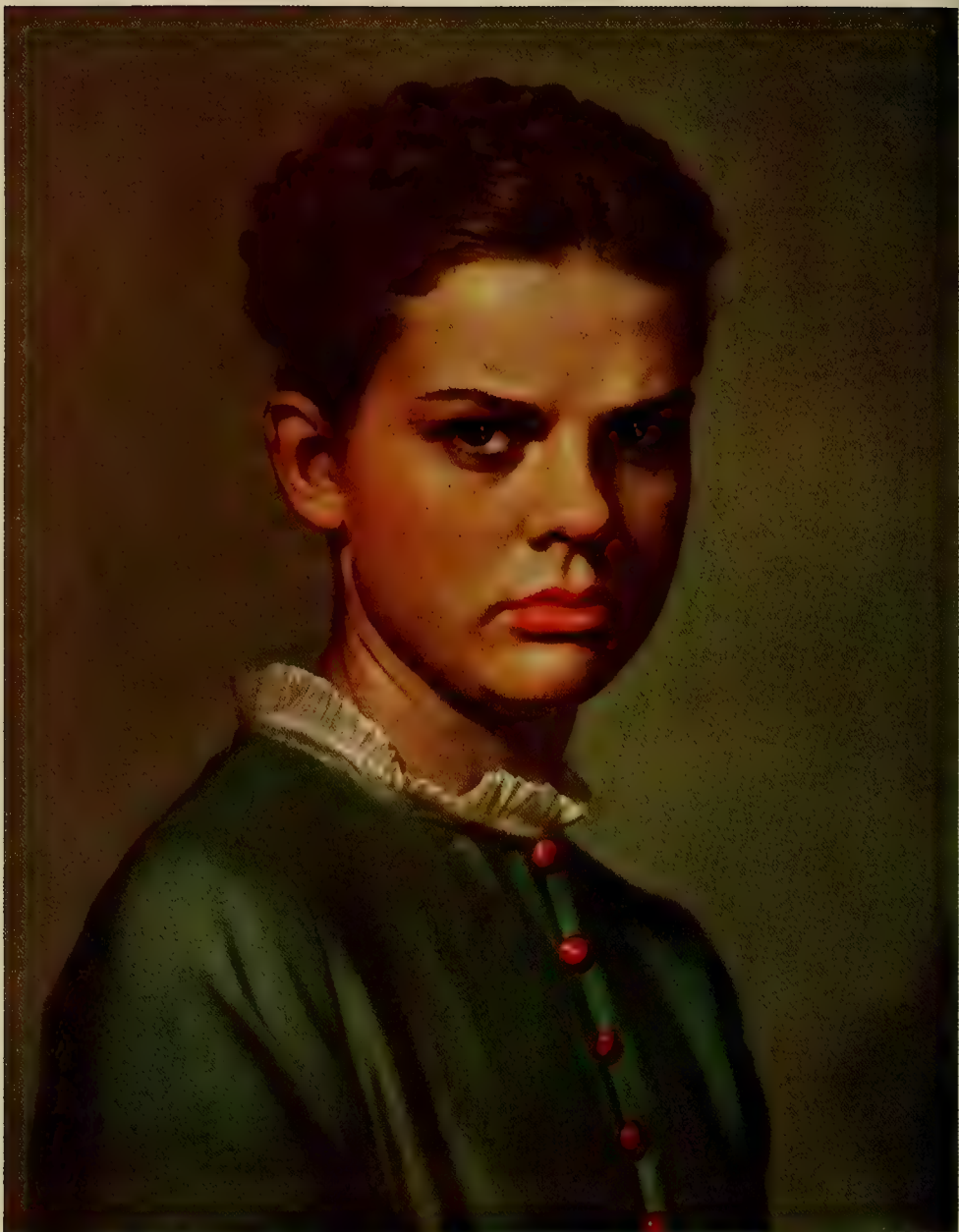
Morgan & Lester, it appears, have developed a book-making formula that is a jim dandy. They first decide what subjects are to be covered in their book and set each of these up as a chapter. They then go out and dig up the individual who is best equipped to write chapter one. Another fellow of the same caliber takes on chapter two, etc., etc. This combination of many minds produces a book that is outstandingly useful and instructive.

They did a fine job with the Leica Manual—they have done an even better one with Miniature Camera Work.

The writer wishes to correct one mistaken impression which he has heard voiced by several who had not seen this book. It is definitely not a new version of the Leica Manual expanded to include all miniature cameras. There is very little duplication between the volumes. The Leica Manual is a book of technical information. Miniature Camera Work takes up the other side of the story, discussing all of the factors beyond simple technique which help the photographer to understand and make better pictures. Don't misunder-

stand—there are heaps of technical information here, but the emphasis is on this other, and to our way of thinking, most important aspect. A list of chapter headings will give a good idea of the scope of the book. These are: The Passing Scene, by Robert Disraeli; Formal and Informal Portraiture, by Manuel Komroff; Photo-Journalism, by Willard D. Morgan; Eyes That See, by Alfred Eisenstaedt; The Expanding Photographic Universe, by Ansel Adams; Sport and Action Photography, by John A. Davis; Color Photography, by Harris B. Tuttle, with 20 color plates; Composition In Photography, by Leo Katz; Photography of Children and Pets, by Douglas Haskell; Photomontage, by Barbara Morgan; News Photography, by Alan Fisher; Photography of After Dark Entertainment, by Leo Pavelle; Surrealism for the Photographer, by Lewis Jacobs; The Miniature Camera Club, by Augustus Wolfman; Photographic Facts and Data, by Henry M. Lester; and the advertising section which functions as a catalog of miniature camera equipment. The book contains 500 illustrations, 175,000 words of text, 20 natural color reproductions. We are sure that you will agree that all of this adds up to plenty. Don't miss it.





"Girl With Red Buttons"

William Mortensen

Color In Photography

William Mortensen

Part IV. Some Ideas on Composition in Color

THE present trend in photographic color is marked, for the most part, by a vague, uncritical yearning for color for its own sake and at any price. Despite the fine processes now available, we see little inclination to appreciate or understand the function and use of color *in a picture*.

The customary approach to color nowadays takes account of only two issues. These are:

1. Subject matter. That is, if the gal is good looking and has a reasonably good figure, it is *ipso facto* a good picture.

2. Color of any sort, at any price. Whenever flamboyant color is in evidence, that is the direction they point their cameras. It doesn't matter whether there is a picture there or not; color is what they are after, and color, by God, is what they get! Why pay out money for color film unless you pack it full of all the color it will carry? If, by chance, there does happen to be a *picture* involved, it is so overwhelmed by the color fireworks as to be practically invisible.

For those who haven't the wit or understanding to get beyond this attitude toward color, there is nothing to be done. They must be allowed to paint the town red with Kodachrome and amuse themselves with things they don't understand.

But there are some to whom color is of interest as a factor in *pictures*. To these color is a thing too rare and precious to be squandered recklessly, carelessly or foolishly. It is a thing too full of delicate meaning to be put to moronic and nonsensical uses.

Although there is available at present much material on how to put color into photography, there is very little advice on how to *use* it in pictures. So I wish to suggest in this article a basis for better understanding of composition in terms of color. I am not going to try to give a completely rounded system for composing in color. I don't propose to offer any abso-

lute and immutable laws. It will be possible, no doubt, to discover numerous exceptions to the rules that I am about to indicate. My effort now is merely to suggest a few simple, sensible, and fairly consistent principles for securing pleasing results in the application of color in photography.

Of course we shall assume throughout that you want to use color, not for the sake of greater naturalness, or because you like color for its own sake, but because you wish *greater pictorial effectiveness*.

Color Blindness

The first thing that we need to do in acquiring skill in the use of color, is to *learn to see color*. Most of us have become so habituated to color that we are actually unaware of it unless we take special pains to notice it. This is a sort of color blindness that we are all subject to. We don't really see the color around us because we take it for granted.

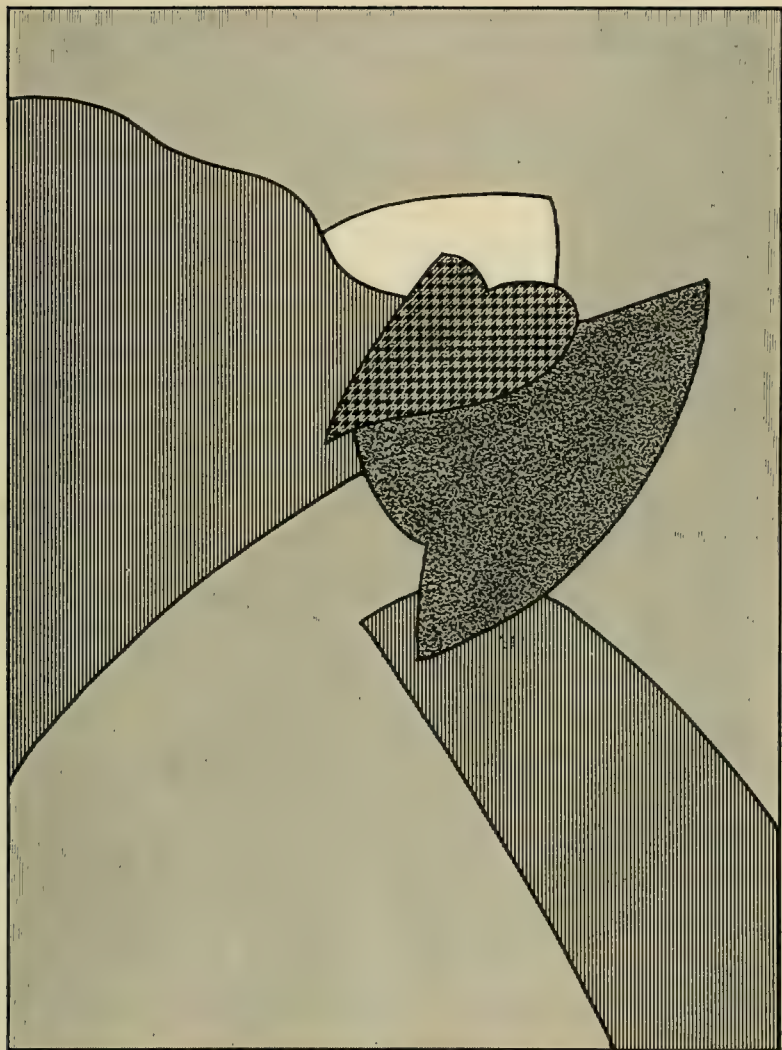
So our first job is to learn to see color again—naively, simply, and free from naturalistic complications. The child who takes his crayolas and draws a blue cow standing beside a pink tree in front of a yellow house with green smoke coming out of the chimney probably produces a better picture than his father—who takes his Leica and a roll of Kodachrome and shoots the Grand Canyon. The elder artist—if he is lucky—possibly gets an adequate record of this geological phenomenon; but everyone who has ever received a picture postcard knows what the Grand Canyon looks like. The fantasy with the blue cow, pink tree, etc., on the other hand, shows a genuine personal touch and a real delight in color. To be sure, the child's elders, in their wisdom, assure him that cows are not blue and trees are not pink, but it doesn't bother him. He knows that they look nice that way. In a word, they are pictorially effective.

So—look for color in the world around you. At first you will see only the obvious and conventional tones—the pink of the rose, the blue of the sky, the brown of the earth. Before long you will discover and come to appreciate subtleties that you didn't know were there. You will discover that the rose isn't merely pink, the sky isn't merely blue, and the earth isn't merely brown. You will discover whole worlds of color in tones that you had once thought were neutral and colorless. You will come to appreciate combinations of color—some mildly pleasant, some exciting, some definitely ugly. You will note how colors affect each other—how some pairs are dull and dismal in each other's company, and how other pairs stimulate each other to greater brilliance. You will realize the emotional connotations of colors—cool colors that are soothing and melancholy, and warm colors that are vital and energetic.

Unless you happen to be one of the happy few who are congenitally sensitive to color, you will need to go through some such period of re-awakening and self-education. Obviously, until you have gotten over your color blindness and have learned to see color, you cannot hope to make effective use of color in pictures.

Sources of Bad Color

As you learn to see color, you will begin to realize the badness of most of the color that appears in contemporary photography. It may be accurate color, and it is certainly abundant color, but it is none the less bad. In a picture, bad color is a disorganizing, disintegrating and actually demoraliz-







-  PRIMARY COLOR
-  SECONDARY COOL COLOR
-  SECONDARY WARM COLOR
-  NEUTRAL TINTS

Figure 1. Correct proportion and distribution of color.

ing influence. It is as foreign and disruptive an element as a trap drummer in a string quartet.

There are two things that are the principal sources of bad photographic color. By eliminating these you will make a definite beginning toward improving the pictorial effectiveness of color in your work. These are the two things:

1. Subject matter that is merely "colorful."
2. Contrasty lighting.

Learn to suspect anything that attracts you immediately because of its color. Ten to one it will make a bad picture. In most cases it is simply a mass of flagrant and literal color without any real formation or structure supporting it. Subtract the color and nothing interesting is left. In this category belongs such material as parades, gardens, variegated masses of flowers, beach-balls, etc., all of which are favorite themes of contemporary workers, and none of which ever yielded a picture. In a few cases, among the things that attract you primarily because of their color, there is actually good structure and pictorial possibilities, but these possibilities are swamped and thwarted by floods of violent and irrelevant color. Typical examples of this are Mexicans with serapes and Indians with brilliant blankets and feather head-dresses. In these cases the Mexicans are practically hidden in the effulgence of their serapes and the Indians run a poor second to their gorgeous trappings. Such material as that last described would prove more effective pictorially if done in black-and-white.

Contrasty lighting, because it looks brilliant and sparkling, is also apt to prove a lure to the color photographer. Such lighting, of course, is bad enough in terms of black-and-white, but in color it is absolute disaster.

The Basis of Pictorial Color

When you have achieved the negative virtue of avoiding these faults, you are ready to consider positive, constructive principles for putting color to effective pictorial use. All rules for the effective use of color boil down to just two basic principles. These are:

1. Economy.
2. Isolation.

Economy

As we have seen in discussing merely "colorful" subject matter, too much color is virtually the negation of color. To be a little cryptic, you may say that in such subject matter you have *colors* but *no color*.

A novel in which a violent murder takes place on every page would speedily become ridiculous, monotonous and a downright bore. Such a book, indeed, could only appeal to juvenile tastes. But a wise and experienced author, by practicing restraint and economy in his effects, can build a whole thrilling book around a single deed of violence.

So the first constructive step in putting color to pictorial use is to go on a basis of strict *economy*. Imagine that your funds are limited and that pure color costs you ten dollars a square inch. Under these conditions you would use as few colors as possible and as sparingly as possible.

The result of such economy is that, by discarding colors you don't need, you immediately become much more aware of those that are left.

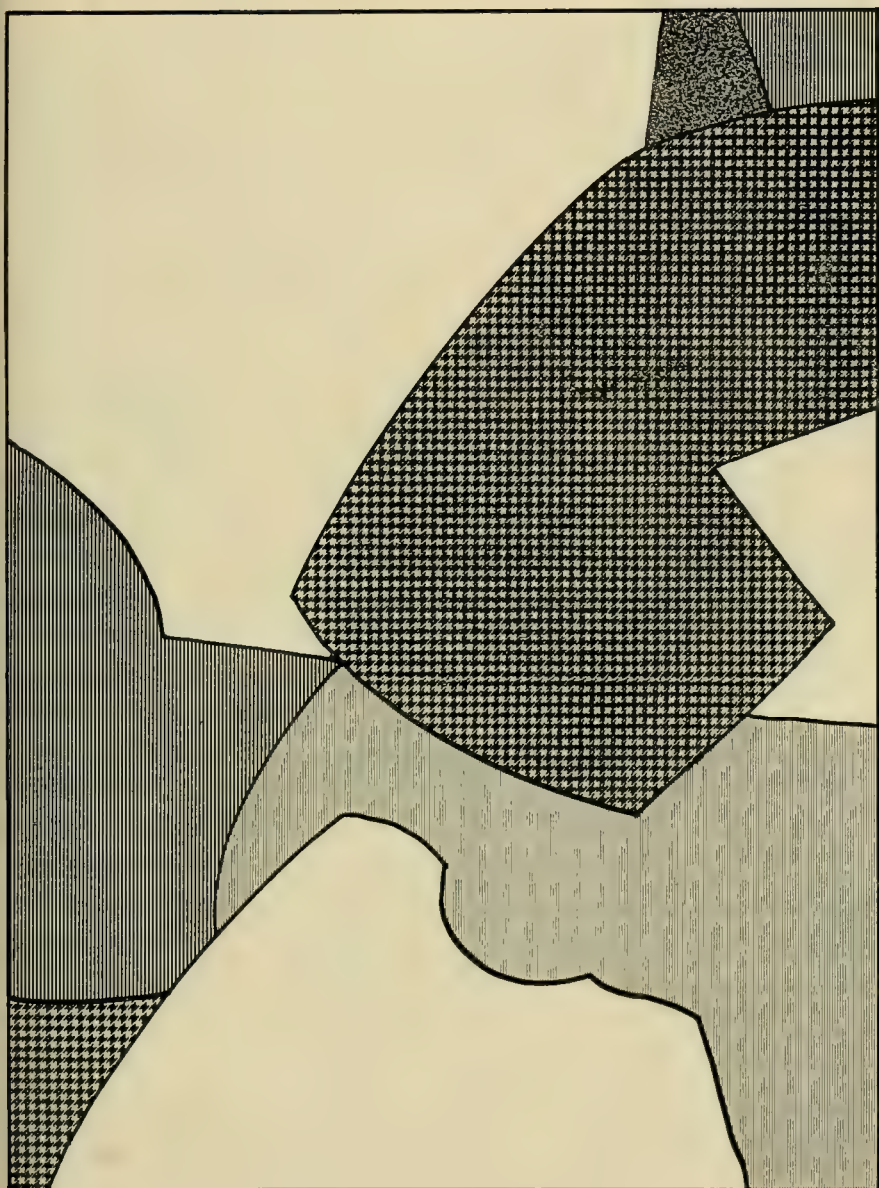


Figure 2. Faulty proportion of color.

There is more *effective color* in a small Whistler "nocturne" than in a circus billboard. Indeed, a skillful draughtsman in black and white can actually give a fuller and more satisfactory feeling of color than can any literal, crazy-quilt version of nature in terms of Kodachrome.

The general rule for economy is: Use only a small amount of a single pure color in each picture. Let the rest of the picture show only secondary and grayed tones.

Isolation

Isolation is the complement to economy. It is the means by which you make your limited color effective.

In the traffic noise of downtown New York at noonday, even a boiler explosion would not get your attention. It would be just another discordant note in the formless cacaphony. But, in the silence of midnight, let a mouse but twitch his tail in the partition, and you are instantly aware of it.

In a room with brightly patterned wall-paper, the introduction of even a large amount of color would not be very evident. But in a room with walls, floor and ceiling all of neutral gray, the effect of a small red ball tossed into the room would be startling indeed.

So instead of spreading thin all over the picture with the small amount of pure color that we have allowed ourselves, we *concentrate* it where it will do the most good. Sometimes we emphasize it by placing near it a tiny note of *contrasting* pure color. For example, the principal patch of pure color in a portrait might be supplied by a red hat. The subsidiary note of contrast might be furnished by a tiny blue-green ornament on the shoulder.

We may sum up these two basic principles of Economy and Isolation in a single statement: Severely limit your color and then make the most of what you have left.

The Two Problems of Color Composition

The application of these principles of Economy and Isolation to concrete pictorial practice raises two general problems of color composition. These problems are:

1. Proportion.
2. Distribution.

In the first place, how much of the picture area should be allotted to the principal patch of pure color, and what relationship should this bear to the small spot of subsidiary pure color? What, furthermore, should be the color relationship of the background? Finally, how should these various color areas be distributed and placed within the picture space?

The importance of correct treatment of these problems is diagrammatically shown in Figures 1, 2 and 3. Figure 1 shows a fairly correct and reasonable proportion and distribution of the various color elements. Figure 2 shows a typical case of faulty proportion: the area of pure color is much too large, so large that it swamps the picture. In Figure 3 there is wrong distribution: the patch of pure color is placed so near the edge that it draws the eye out of the picture instead of into it.

The following rules will serve to guide more specifically your approach to the problems of Proportion and Distribution:

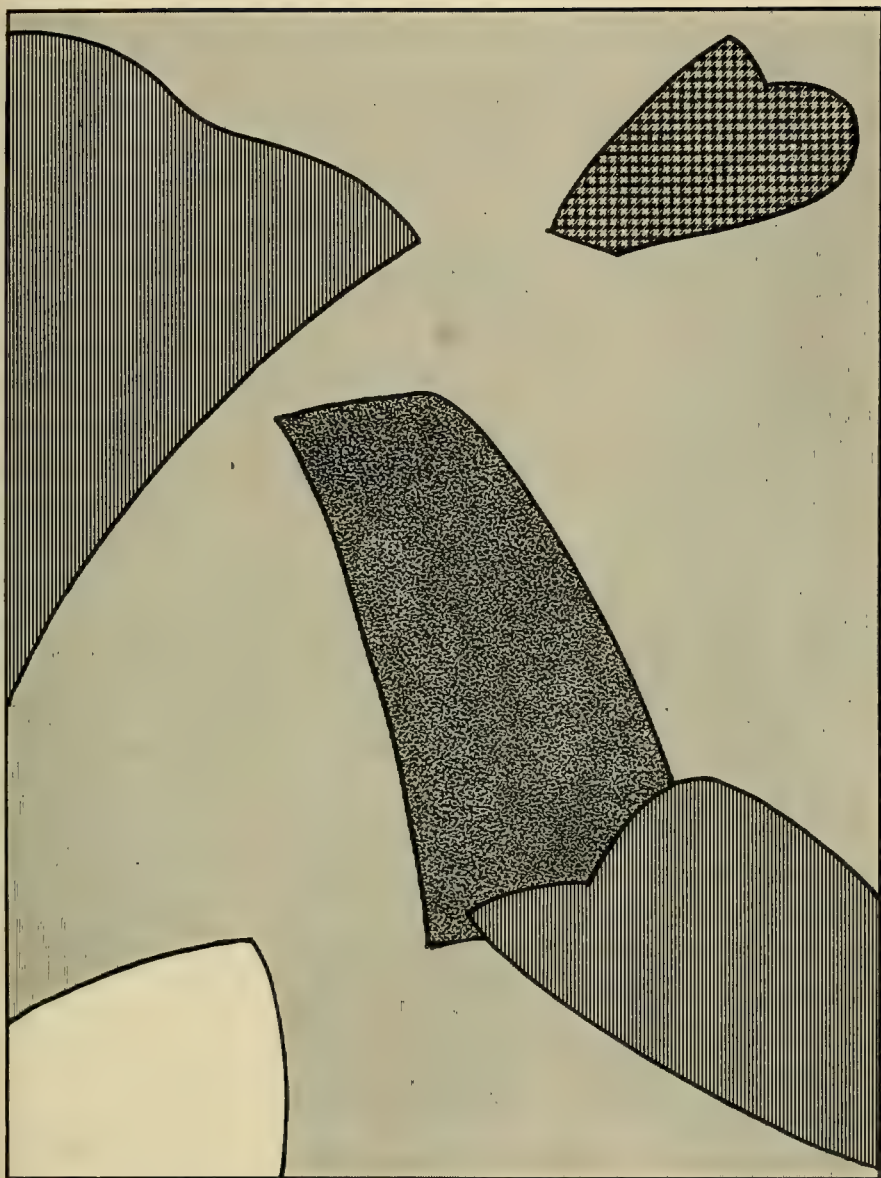


Figure 3. Faulty distribution of color.

Rules For Proportion

1. The principal patch of pure color should not occupy an area larger than one-eighth of the total picture space.
2. The subsidiary (contrasting) patch of pure color should not occupy an area larger than one-eighth of the principal patch; i.e., not larger than one sixty-fourth of the total picture space.
3. The background should be of a tone obtained by mixing together, in their given proportion and amounts, the two areas of pure color. This tone should be diluted by spreading it over the entire remaining picture space. It may be grayed as desired. (For example, if the principal pure color was red and subsidiary pure color was blue, then the background should be a warmish purple-gray. If, on the other hand, the principal pure color was blue and the subsidiary pure color was red, then the background should be a cool purple-gray.)

Rules For Distribution

1. The two areas of pure color should be placed reasonably close to each other. (To place the principal area in the hat and the subsidiary area on the shoulder, as suggested above, would keep the two areas reasonably related. But to place the subsidiary area on the shoes would separate the areas too widely.)
2. Both areas should be placed near the item of chief interest in the picture. (In a portrait, of course, this would be somewhere near the face.)
3. Avoid centering these areas of pure color. (A position somewhere near the focus of a "root-two" rectangle* is generally the correct placement for the principal color interest in a picture.)

The Coming Choice

The limit of tolerance for purely literal and crass recording is much sooner reached in color photography than in the black-and-white medium. In the latter, no matter how uninspired, there is always a little stimulus to the imagination owing to the translation of colors into a scale of grays. But, once the technical novelty has faded, the merely literal colored photograph is very dead indeed.

So, before very long, it is going to happen that a large number of workers in color photography will be obliged to make an important choice. Either they will decide to use *color as a means for making pictures* more effective than black and white—or else they will take all their dyes, all their filters, all their exposure charts, all their chromo-washoffs, and give them to the little boy next door.

Those who make the former choice will have picked the hard way, and they won't all succeed in it. But, for those who do, it will eventually bring rewards of vastly increased pictorial effectiveness.

* See Projection Control, Chapter Six.

Eclectic Photography

Paul Louis Hexter

THE eclectic painters find work in any one school of painting too confining and, therefore, borrow freely from other traditions incorporating the best into their own work. They vary the treatment of the painting according to the subject rather than presenting all work in the same manner. This principle carried over to photography has much to commend it.

Selection, emphasis, and exaggeration, are the factors that differentiate a work of artistic merit from a factual record. The Purist believes that these factors must all be completely worked out before the exposure is made. Selection is accomplished by camera placement, emphasis is accomplished by lighting, and exaggeration is taken care of by the camera angle. Processing and finishing are entirely mechanical and focussed on the preservation of maximum gradation and tone separation. The ideal print, therefore, is an uncontrolled glossy, for this gives maximum separation between black and white.

The Pictorialist on the other hand looks on the photographic process as only partially started when the negative is produced. All the control processes, paper negatives, intensifiers, reducers, and other photographic magic are called into play and the picture depends as much on manipulative technique as creative ability. The Pictorialist bases his pictures on the sound principles of composition which, although worked out for other media, he applies to photography. Much criticism of the Pictorial school has been brought about by too obvious manipulation with resulting artificiality.

Eclecticism in photography consists in selecting the best features of both schools and combining them to give a broader scope for creative work. Both schools are at times subject to the criticism of being more interested in the manner in which the picture is produced than in the picture itself. The true eclectic, whose primary interest is the picture, cares not how it is produced but only if it is a fine photograph.



"Marc Connelly"

Paul Louis Hexter



"Dogaressa"

Paul Louis Hexter

The characteristic of the photographic medium is the ability to render many subtle tone gradations from black to white and all efforts must be toward the preservation of this unique ability. No other medium can approach photography in this respect. The Purist keeps this in mind at all times and technically perfect prints are the result. No photographer can find fault with the precepts of the Purist before he exposes a negative and in his determination for maximum tone separation.

Up to this point Purist and Pictorialist should be in complete agreement and their negatives should be the same. The Purist, bound by his belief in the sin of changing any value or tone, prints it, as is, on glossy paper and shouts down all criticism of such a print on the basis of intellectual appreciation. That such a picture in portraiture results in an exaggerated form of skin texture, bordering on the walrus hide, the Purist admits and from experience knows the subject must have a strong stomach to like a print of this character. The Purist fails to perceive the violation of empathy in presenting flesh which is soft and warm on glossy paper which is harsh and cold. His subject sees this violation without knowing it has a name.

In portraiture, likeness does not mean a microscopic map of the face. On the contrary, likeness demands the rendition of flesh tones as they are normally, with emphasis on modelling rather than on pores and the presentation of the print in a manner harmonious with the subject. The finest portrait presentation is usually achieved in bromoil transfer for although the process is often misused for broad sweeping effects, it can also be used consistently with the idea of keeping fine modelling. The bromide print will never be made that has the richness and carrying power of a bromoil transfer.

The Pictorialist starting with a portrait negative often feels the urge to modify the negative in a manner not consistent with proper conception of the photographic medium. Outlines are changed, character lines are removed, and cross hatching is substituted for skin texture. The general aspect of the negative is modified to correct errors which should not have occurred in the first place. Then a print presentation is selected which will cover up all the non-photographic manual work. Unable to hold the full photographic gradation, the process is usually broadly manipulated losing all the subtle fine gradations which are the *raison d'être* of photography.

If the photographer on the one hand would begin with the Purist ideal before the exposure is made, and on the other continue from the negative with all the various methods of the Pictorialist, keeping fine subtle tone rendition as the foremost point, the picture would be an eclectic photograph combining the best that both schools have to offer.

This means that retouching and control can be used without violation of the photographic medium. Retouching, the word that causes all Purists to see red, is not bad just because it is retouching. Retouching is bad when it is used as a general corrective for lack of photographic ability. Photographic tone gradation can never be imitated by pencil work regardless of the cleverness of the artist and such pencil work is always recognized. Diffusion to hide retouching hides photographic quality as well.



"The Progress of Civilization"

Paul Louis Hexter

Control which subdues or intensifies tonal areas without interfering with the gradation within those areas is often exercised by dye-staining the negative, controlled enlarging, or bromoil inking, and is used for the purpose of improving composition. Such control is fully within the photographic process and the Purist in spurning such devices spurns a means of improving his pictures. The Pictorialist on the other hand often violates the medium with pencil work as a substitute for photographic ability. Control is no substitute for faulty gradation, bad perspective, and poor negative quality, but it can be used to enhance the effectiveness of every good negative.

The Purist, by omitting control of tone values in making the print, discards much of what has come down on the subject of composition in five hundred years of work in other arts. Photographers should understand the principles of composition thoroughly and use them consciously and subconsciously in creating pictures. Composition is the foundation upon which effective pictures are built in all graphic arts. The better the composition the more effective the picture and the poorer the composition the weaker the picture. For the Purist, sector analysis and naive good taste are the extent to which he allows the principles of picture composition in the other arts to effect photography and this definitely limits the maximum effectiveness of his pictures.

Some Purists have gone to the extreme of believing any arrangement satisfactory to the photographer is good composition. The best pictures of these extremists, however, are excellently composed even though the composition was arrived at subconsciously and in spite of their disbelief. The pictorial processes such as controlled bromide printing, paper negative, and bromoil transfer lend themselves to improving composition and can be manipulated to hold the tonal relationships which are inherent in good photography just as well as to lose them.

Eclectic Photography is the use of Purist principles to make the negative and Pictorial processes for the presentation of the print should they be called for by the subject. The eclectic in photography will use a glossy bromide to show the texture of a coconut and a bromoil transfer for a lovely portrait. This is by no means inconsistent. It is making the subject determine the final print rather than presenting all subjects in the same manner. It is the use of photography to the fullest extent to which it can be used as a creative medium today.

Camera Craft feels that it has "discovered" a writer of rare ability in the person of Mr. Hexter. Not because he can put words together with skill but because he has approached and studied photography with a lively intelligence and a determination to get to the bottom of things. This is the first of a series of articles in which Mr. Hexter will discuss the problems confronting the pictorial photographer.—Ed.

Portraits Of Men

Stanley R. Jordan

A FRIEND of mine, as an amateur photographer, cherished an ambition for many years to own a studio and to make portraits of men exclusively. He expected, by specializing in portraits of men, to escape all dealings with women and to make character photographs with little or no retouching. It wasn't long until he found, to his amazement, that a woman was involved in almost every transaction. In fact, my friend reports that it is a frequent occurrence for a woman to handle every detail except actually sitting for the portrait.

The majority of men after they have had a portrait made will not have another one until forced to do so. Actors are an exception—but few men have the colossal vanity that distinguishes an actor from the ordinary man. Events in the lives of prominent men are frequently illustrated in publications by photographs made so long ago that not even the man's intimate friends can recognize him.

The influence of women suggests the idea that it is good business for the studio to sell portraits of men through advertising directed to women.

The Preliminary Interview

It is difficult to arrange advance interviews with men, but the results are well worth the effort. The stock excuse will be that he is too busy but if the truth could be known, he is simply afraid to admit his portrait is *that* important. Years of careful observation have convinced me that the average business man ought to complete his office work in two hours a day or less. But decisions on the most trivial matters are sidetracked and callers are told to return the next day or next week simply because the man won't make up his mind. The photographer is selling something that men seldom buy of their own volition, so considerable sales strategy is needed. If the portrait is wanted by mother, wife or sweetheart, enlist her aid. The American business man may be a roaring lion in the market place, but he jumps through the burning hoop with alacrity when his wife cracks the whip.

If a woman is interested in a man's portrait, her presence upon the



Figure 1.

occasion of the advance interview is a decided advantage because it gives the photographer an opportunity to win her confidence. She is sure to have the last word in the selection of proofs, and she will suggest more people who should be presented with a photograph than a man could ever think of.

The primary purpose of the interview is to impress upon the subject that a *portrait* is more than just a picture. The photographer must have control of the situation at all times and the advance interview is the logical time and place to start. Too often, men of affairs try to shift the burden of responsibility for the portrait onto the photographer by treating the entire transaction as a nuisance. Accustomed to pushing representatives of the press around, he can be expected to gallop into the studio at his own convenience and bark, "Let's get this over with." Two clicks of the shutter, and he reaches for his hat saying, "You've got enough." The closing lines of this routine are, "You pick out a good one and fix it up—you know what I ought to have."

Obviously, the *man* has not been photographed—but only a stuffed shirt with the label "Vice-President" on it. It would be far better to flatly refuse to make a portrait except under conditions which afford a reasonable opportunity of success. I have, on two occasions, declined to photograph one of the owners of a corporation that is among the largest of its kind in the world. Had I made the pictures under the conditions prevailing at the time (on one occasion he was suffering from a heavy cold) I would have received a few paltry dollars, for something that would be viewed by hundreds of wealthy and prominent people to my everlasting regret. As the matter stands today, I have my self-respect, which is worth more than



Figure 2.

money and the respect of a man who has added to my reputation as a photographer by his approval of my methods.)

A successful portrait requires the cooperation of the subject in *spirit* as well as in *body*. If a man is reluctant about spending his time or making an honest effort to cooperate, then it is best to be frank and appeal to him by logical reasoning. Here is an example: "Mr. Jones, you own a steel mill and your success is proof of a sound knowledge of the steel business. You know more about steel than I could learn if I spent the remainder of my life studying it. On the other hand, I have devoted the best years of my life to portrait photography, and my portraits are evidence of my qualifications.

"If I buy steel from you, your reputation is the best possible guarantee of quality. But, I must buy from you at *your* price and according to *your* terms and conditions of sale, which presumably net you a profit—the ultimate aim of all business. The successful conclusion of the transaction depends upon confidence between buyer and seller. In order to produce a portrait that will be satisfactory to both of us, I must have your confidence in my ability to specify the conditions under which a successful portrait can be made, and you should be willing to spend the time necessary to do it."

Psychology in Characterization

If a woman is attractive, her portrait is justified by a faithful reproduction of her beauty. But a man is noted in life and after he has gone for *achievement* and his portrait must take into account the activities of his life. Women are admired for *themselves* and men for what they do.

A man's environment is sure to leave its marks upon him psychologically as well as physically, and it is not for the photographer to judge whether or not he has devoted his energies to laudable enterprises.

I know a man who is invariably referred to in the newspapers as a "millionaire sportsman." Rumor has it that the fellow squandered his inheritance, that he has never done an honest day's work in his life, and swears he never shall. But he is an accomplished entertainer, wears clothes well, and always finds someone willing to finance him. I photographed him as a "playboy" in appropriate poses and costumes—any other course would have made us both ridiculous.

Costumes, backgrounds, furniture, and lighting are valuable aids in portraits of men. Sometimes the surroundings offer the most effective means of establishing the psychology of the portrait. Figure 1. The tycoons of modern business are good examples of portrait subjects whose characters are inseparably bound up with achievement. Starting in most cases, as poor boys, they have spent their entire lives accumulating money. Vast wealth is a source of endless wonder; and the newspapers naively print stories of the rich man's town and country houses, yachts, and racing stables, until these possessions become symbols of the man's wealth and power. The fact that the man accumulates so many things that he cannot possibly find time to use is in itself an index to his character. Such a man is a veritable Colossus of such psychological stature as to almost preclude a studio portrait at all. Perhaps a portrait at his desk in a banking establishment or in front of a baronial fireplace with an enormous dog at his



Figure 3.

feet would convey the idea of *possession*. Many readers will argue that the man's character could be portrayed by a head and shoulder picture and that the surroundings I have suggested are too obvious. I heartily disagree because the desire to possess so dominates the man's life that it could scarcely be indicated too strongly in a portrait.

Edward Steichen is a master of psychological portraits of men. Featured for many years in "Vanity Fair" (since combined with Vogue), his portraits were a magnificent contribution to contemporary photography.

One of the cardinal principles of salesmanship as outlined in every manual on the subject is to make diligent inquiry in regard to the hobbies of the prospect in order to meet him on the common ground of mutual interest. Photographic publications have been advocating this idea for years, but I want to warn the reader that unless he has a real and sincere interest in the particular hobby, there is no use to attempt a discussion of it. When a total stranger presumes upon my time to discuss something that he knows very little about, I am instantly aware of it and it arouses me to fury.

Last Fall, I made a portrait of a Vice-President of an international advertising agency. One of my scouts reported that he was as "cold as a fish" and predicted that there was a total absence of human emotions. When the man came into the camera room, he confided that he had suffered all his life from self-consciousness and that he had been unable for this reason to obtain a satisfactory photograph. Instead of trying to force the conversation, I decided that he was doing fine and I simply listened. He soon volunteered the information that he was leaving in a few days for a vacation and that he would arrive at his boyhood home about "hog-killing time." This was a subject of real interest to me, and it reminded me of many experiences of my youth that I could describe with enthusiasm. The result was a pleasant half hour during which photographs were never again mentioned, but during the conversation I was making excellent negatives in which the subject showed no trace of self-consciousness.

Lighting

The lighting of a man's picture should emphasize his physical strength as well as his character. Men have stronger, larger features than women, and lighting should be *masculine* with heavier shadows than it is advisable to use on the comparatively delicate feminine features.

Nearly all portraits of men will be made with the lights ranging from normal into the contrast region of the elevation and floor plan zones.*

Low key lighting with a short scale of tones ranging from gray to black is especially appropriate for men of mature years. There is a certain dignity in this method of lighting that cannot be obtained with the more contrasty effects.

A good example of this type of lighting is shown in Figure 2. The subject was dressed in a dark suit and the chair in which he was seated is deep red. At first glance it may appear that this is a long scale print,

* The "Zone Method" of lighting is explained in Mr. Jordan's forthcoming book "Modern Portraiture," which will be published by CAMERA CRAFT in the early fall of this year. This article is an extract from the book.—Ed.



Figure 4



Figure 5.

because the subject is wearing a white collar and the tones extend into deep black. But the white collar can be ignored for it is a single isolated note widely separated from the *actual* tone scale which ranges from gray to black.

High key lighting is very effective for portraits of young men. A white shirt, open at the neck, is youthful; and it is informal enough to appeal to high school and college boys. Figure 3.

Posing

The young man photographed in a white shirt open at the neck, should be posed in an informal way to harmonize with the lighting and costume. This treatment, however, would be totally unsuitable for the portrait of a business man. Although there is a general tendency toward the informal in nearly all portraits of men, dignity and good taste must not be disregarded. One of the reasons for the informal pose is that the average man is somewhat ill at ease before the camera, and fussing about him to perfect every fold and wrinkle only adds to his nervousness.

When a man steps in front of the camera, he is never quite sure of his appearance; but a woman always knows when she looks her best. A haircut, bath, shave and shoe shine are about the extent of a man's preparation for business and social contacts, and he has no idea what to do about dressing for a photograph. The average man is glad to have suggestions and advice in regard to his appearance, and he is reassured by a definite statement from the photographer that his clothing is in good order.

When a man who shows signs of self-consciousness enters the camera-



Figure 7.

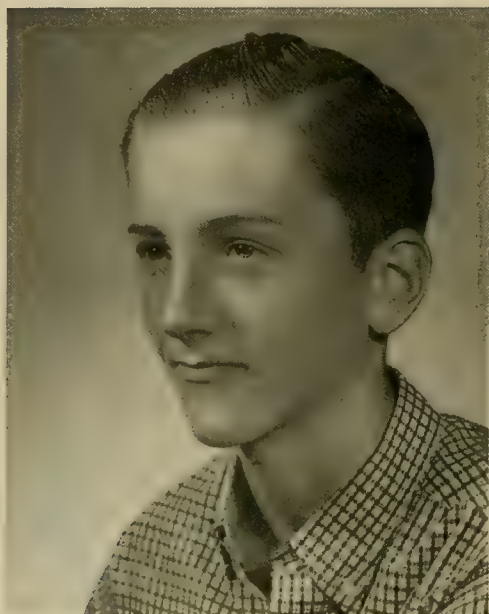


Figure 6.

room, the chair I want him to occupy has previously been placed in position. I merely indicate the chair and for a few moments purposely turn my attention to camera or lamp. There is a possibility that the subject, under the impression that the equipment is not quite ready, will seat himself in a natural position and relax. If, however, he fails to do so, he should be asked to stand for a moment on the pretext that the chair is not quite in the desired position. If he fails the second time to sit in a natural position, I have found it best to suggest a natural pose by sitting down myself in another chair and asking him to assume a similar position in his chair.

The heavy man should not be posed in front of a light background because the bulk of the figure is emphasized. A chair which permits the fat man to support his arms while leaning slightly forward is one of the most effective ways to avoid emphasis of the prominent stomach. Figure 4. Fat men should never be permitted to lean back in the chair because this exaggerates obesity.

Bald heads are a rather frequent problem, and the usual method is to use a headscreen to reduce the reflected light from the top of the head. This, however, does not provide an effective remedy for all subjects because the bald head often makes the man's face look too long. The excessive vertical dimension can, however, be reduced by having the subject wear a hat. Figure 5.

A common form of headscreen is a metal ring covered with a thin black chiffon or similar material and mounted on a pedestal which can be adjusted for height and to any desired angle. A headscreen should merely soften the light and it should not be covered with an opaque material because this is likely to cast a heavy shadow.

If a woman's ears are too prominent, she generally uses a style of



Fig. 8.

Print from an unretouched negative. Note the lines of expression around the eyes and mouth which make this a natural and characteristic portrait.



Figure 9.

Print from the same negative after retouching. The retoucher was instructed to retouch the negative as he would for a family portrait studio.

hairdress that will cover the deformity, but this remedy is not available to men, at least not in the more civilized parts of the country. The offending ear can either be toned down by placing a headscreen between the light source and subject or by posing at an angle to the camera which will conceal one ear entirely and prevent the other from appearing in relief against the background. Figure 6.

Cigarettes, pipes, and other accessories used in conjunction with dramatic lighting effects afford opportunities for many unusual pictures. Subjects for photographs of this kind should have strong features and care must be exercised in the posing of the hands so that they will not be closer to the camera than the face of the subject. Figure 7.

Make-Up

Good flesh tones and skin textures add strength and realism to a man's portrait. A few minutes under studio lamps is usually sufficient to bring a warm, moist glow to the skin and no make-up is necessary. The desired effect can, however, be obtained with the application of a few drops of olive oil, evenly distributed over the face with the palm of the hand. Some of the skin lotions are also satisfactory for this purpose.

Subjects with heavy beards should shave, if possible, just before the photographs are made. If the subject has been shaved in a barber shop, remove excess powder if it is noticeable. Some barbers have a habit of dusting their customers with a large powder brush, liberally loaded with powder.

Retouching

It is not my purpose to discuss how much or how little retouching

should be done on a man's portrait, but to suggest that in most cases the negative should not be retouched at all. Figure 8 is a print made from an unretouched negative, and Figure 9 is a print made after the same negative was retouched by a retoucher who was instructed to retouch the negative as for a family portrait studio.

I hasten to explain, for the benefit of those who might misinterpret my suggestion, that I have no prejudice whatsoever against retouching negatives or those who practice the so-called "art" of retouching. I avail myself of the services of an expert retoucher and if it is necessary to retouch a negative at all, the rule is that nothing is to be done that will change the character or appearance of the subject.

The psychological character of the average man is usually indicated by lines that time and circumstance have etched too deeply for the retoucher's pencil to successfully remove. That is the reason that excessive retouching is more noticeable in the portrait of a man than in the portrait of a woman.

Those who deliberately try to flatter subjects by various retouching methods would be wise to consider the modern trend toward realism. The extensive use of "candid camera" photography by newspapers and magazines everywhere is ample evidence of public acceptance of the unretouched photograph, particularly of men.

Hands

Alda Jourdan

IN portraying natural characteristics there is not much to be especially considered about the hands except a thorough understanding that they are of course a part of character delineation. Next to the face the hands are the most expressive part of the body. When we observe the carefully placed hands in the early photographs we say, "How well they fit in with the formal and stolid poses." The hands were nearly always vertical with the body, folded in the lap, or one hand supporting the figure by holding a chair or some accessory. How well those poses reveal that experience in photography when it was an achievement to obtain a picture in the very simplest form.

The years that followed record a very great many pictures of hands



Alda Jourdan

that now seem devoid of beauty in their clumsiness, their affectation or consciously posed arrangements. There seemed to be a choice only between a placed and posed hand or an unnatural and awkward portrayal. The hands are a very intimate expression of personality, and respond to awkwardness and self consciousness. That they were not satisfactorily portrayed is exemplified by the familiar phrase, "Oh don't let my hands show." One seldom hears such remarks now, and there is less thought of the hands by either the model or the recorder. There is a restriction in the matter of focal depth, depending upon the distance of the camera from the figure. It is not possible to record a familiar eye-true record by a close position of the camera and figure. Distorted interpretations are not satisfactory for portraiture. Most poses with the hands outstretched toward the camera are distorted and, therefore, such poses are seldom selected.

With the mind alert for good proportion, the next consideration is the selection of spontaneous attitudes. The visions of rhythmical motion seen through the lens are beautiful indeed. In natural poses the hands assume graceful and interesting positions. The photographer selects attitudes that show the hands in unique poses, in ways that are new and different to the beholder. He is always alert for the beautiful, the unique, and hands naturally recorded add much to the originality of pictures. It generally works out in portraiture that this singling out of the novel and different combinations of forms and shapes, of aspects and attitudes is really finding the individual nature of the one portrayed.

When hands appear in the portrait they are an important part of the composition. They are important in further defining the intention of the particular expression to be recorded, and they are important in designing the tone composition. In composing the picture one should consider these two purposes. The face is the prominent part of the subject matter of the composition, and the hands are secondary. The composition is, therefore, selected with the position of the head as more favorable for consuming interest and the hands as supporting the interest. The tones of the picture are selected favoring the higher lights for the face and the half tones for the hands. These are general rules to work by and not absolute in any sense. The photographic composition always favors the spontaneity of the mental contribution, the particular aspect of the moment, and the picture may happen to be an aspect of the personality described by the hands in such a way that in that particular record they are the predominating part of the composition.

Technique for good photographic quality will insure the necessary detail for tone color, skin texture and all the shade and modeling to bring out the form of the fingers and hands.

Hands not only portray personality but age as well. What a field there is in the future for the portrayal of hands in all the attitudes of different ages. We have often longed for records of those crude ways that babies have in learning to hold objects. We have often longed for pictures of our children's efforts to make things, and we have wanted natural looking pictures of the hands of our mothers and fathers and of our grandparents. Now we can photograph them.

Cinema Section

Edited by

William A. Palmer

Getting The Best From Kodachrome

KODACHROME has been very much improved since its first introduction a few years ago. It is getting nearer to perfection, but still there are characteristics which prevent the process from being completely foolproof. Results approaching perfection can be obtained but not by a "guess and push the button" technique. Black and white movies have just about become foolproof, for it is possible to take pictures under the same light conditions with almost every stop on the lens diaphragm and get a usable scene at each setting. Color work is not so easy and requires a little attention to certain limitations in order that the best results are obtained.

In regard to fidelity of color rendering, Kodachrome is now very excellent, particularly since there has been an improvement in the two main deficiencies of the film. These two deficiencies have been a poor rendering of greens which were apt to turn yellow or brownish, and a tendency for reds to become too dark and wine colored. Lately the greens have been very much better and there has been some improvement in the reds too, a natural result of a greater sensitivity of the green component of the emulsion which results in a less violent dose of magenta dye in the finished film.

The biggest remaining limitation of Kodachrome now is its small latitude. Restricted latitude means that there is a necessity for more accurate exposure determination, that the contrasts of light and shade are exaggerated, and that color contrasts are greater than normal. It is by recognizing this restricted latitude of the film and doing our best to photograph scenes in such a way as not to exceed these limits, that we can be confident of a top-notch scene every time the camera purrs. It is quite probable that soon the film's emulsion will be improved to the point that no further precautions, other than those for good black and white photography, will need to be observed. But at the present time we must observe a few limitations now and then.

Reducing Light and Shade Contrasts

The restricted latitude of Kodachrome exaggerates the contrast between light and shade. For example, a scene illuminated by sunlight, and properly exposed for the highlights, will have very deep shadows which are much darker than they would appear to the eye. If we increase the exposure so as to record the shadow areas as we see them with our eyes, the highlights will be so heavily

exposed that the color will be bleached out. In other words, the film is incapable of properly rendering detail simultaneously in highlights and shadows if the lighting is contrasty. If we must photograph scenes with very contrasty lighting, we must determine whether detail in the highlights or detail in the shade is most important. We can then expose for one and sacrifice the other.

In most cases, by taking a little time and trouble we can arrange the lighting conditions to compensate for the difficulty of light and shade contrasts. *When photographing close-ups of people by sunlight, a reflector is a necessity.* This can be simply a piece of wall board covered with tinfoil or aluminum paint and placed so as to "boost" light into the shadows and make them luminous. From the standpoint of light and shade contrasts, scenes of people taken on cloudy and overcast days are often much more pleasing than those taken in bright sunlight because the light comes from a large area and shadows are practically non-existent.

In the case of artificial lighting, we have a little better control over the light source than with sunlight, and can take precautions to eliminate shadows as much as possible. The lights for close-ups of people should be arranged on either side and near the axis of the camera's lens. The conventional 45 degree front and top light of black and white photography is not desirable.

An ideal lighting scheme for Kodachrome close-ups is the "shadowless" type of lighting unit recommended for still work by Mr. Fred Peel (*CAMERA CRAFT*, Dec. 1933 and June 1934). This lighting unit is a special reflector of a doughnut shape mounted directly in front of the camera. The reflector contains twelve photoflood bulbs and the camera views the subject through the hole in the center of the ring-shaped reflector. This arrangement gives a very powerful front light and creates practically no shadows that the camera can see. A similar lighting effect can be obtained by grouping about four ordinary lighting units in close to the camera.

Reducing Color Contrasts

The latitude of Kodachrome is not sufficient to record both light and dark colors in the same scene with equal fidelity, even though they are both illuminated with the same quantity of light. That is, a medium shade color may appear to be correct while a dark color in the same scene will appear darker than normal and a light color will appear lighter than normal. In a scene having two widely different shades of color, a light and a dark one, the exposure may be adjusted to portray accurately one of the colors but the other color will be either too dark or too light. In most cases this excessive color contrast cannot be helped and it is necessary to decide which shade of color is most important and expose accordingly. *Whenever possible, it is well to select subjects having either all light colors or all dark colors rather than mixtures of the two.*

In some cases, if dark colors and light colors must be included in the same scene, it is possible to concentrate more light on the dark colors and have less on the light colors so as to equalize them. This principle of equalizing color contrast should be used in almost every artificially lighted scene including people. Flesh tone is definitely a light color whereas clothing is often dark in color. It is, therefore, desirable to concentrate the light mostly on the dark clothing and let faces be illuminated by the "spill" light.

Determining the Kodachrome Exposures

As mentioned earlier, the decreased latitude of Kodachrome makes an

accurate exposure setting necessary. Perhaps the best method of determining Kodachrome exposures is the most obvious one—the use of the chart and directions enclosed with each roll of film. The new booklet published by Eastman on the subject of exposing Kodachrome is more complete and very satisfactory. With these guides it is necessary to use some judgment in determining which one of several different basic lighting conditions prevail.

Exposure meters, even of the photo-electric type are not entirely satisfactory for color unless used with discretion. The photo-electric meter, while a scientifically accurate light measuring device, can give erroneous readings because of the fact that the color sensitivity of the photo-electric cell does not match that of the film. The photo-electric meter can be used to give extremely accurate measurements of the light available for photography as has been pointed out in previous issues of *CAMERA CRAFT* (November 1936 and March 1938). These methods of using the meter involve the measuring of the incident light falling on the subject rather than the light reflected from the subject. However, it still does not eliminate a necessity for a certain amount of experience and ability to judge direction of light and type of color. As described very completely by Mr. Haskell in the March issue, the incident light is measured by taking a meter reading of the light reflected from a neutral gray card.

A rather amusing variation of the gray card as a target for the meter was suggested recently by an ardent color fan when he described his method of taking a meter reading on his gray felt hat. He pointed out that, since the hat was a three-dimensional object, the readings thus obtained would automatically take into account the angle of light. It was, of course, necessary for him to determine the "film speed" setting on the meter that matched his particular shade of hat. Perhaps in the future it will be possible to get hat manufacturers to give the proper "film speed" to use with each shade of hat or maybe put out a special shade called "Kodachrome Gray" which would require normal "film speed."

'Filters For Kodachrome

The matter of filters for Kodachrome film is a simple one. There are only three—a daylight filter for type A film, a filter for Photoflood for regular film, and a Haze filter. The most useful filter is the daylight filter for type A film. This is of a pinkish color and is used with the type A film to balance its color rendering for daylight. With this filter, the type A film has the same sensitivity and is exposed with the same settings as the regular Kodachrome. The regular Kodachrome can be used with photoflood lights by the use of the bluish Filter for Photoflood, but when so used is very "slow," requiring almost four times more light than type A. The Haze filter is colorless and is suggested to improve color rendering in distant views. In our opinion, with the improved rendering of Kodachrome, the improvement of the Haze filter is negligible. In order to simplify the matter of having the proper type of Kodachrome in the camera for the type of lighting, we suggest that type A film be used at all times. Its color rendering, when used in daylight with the filter is certainly as good as regular Kodachrome and some feel it is better. Owners of magazine loading cameras, of course, do not have to worry about having the wrong type of film in the camera for the light conditions at hand.

Different Colors in Light Sources

It is well to mention before leaving the subject of Kodachrome, that the

color of both artificial and natural lighting is not a constant factor, and will often explain color rendering that does not seem quite right. The color balance of Kodachrome is made as accurately as possible for "standard" daylight or "standard" photoflood illumination. Actually both artificial and natural light vary a great deal from time to time. For example, "standard" photoflood illumination is only achieved with new lamps operated at 120 volts. More often than not, photofloods are operated on house circuits where voltage applied to them is considerably less than 120. This decreases the amount of light output from the lamps and also makes the color more redish. If the voltage is only slightly less than normal, no harm will result, but it can easily become serious when too many lamps are put on the same circuit, even though no fuses are blown. If your interior scenes seem to have too much red in them, you had better check up on the voltage question.

As photoflood lamps age, their light output decreases, and also the color changes somewhat. This, too, is usually unimportant until the lamps approach the burn-out point. It is, therefore, a good plan to discard photoflood bulbs when they have served a useful life of nearly two hours, rather than to continue to use them until they burn out. The difference in money expended will be slight, but your color values will be much better.

In the case of daylight, the color of the "white" light changes all day long. Morning sunlight is not the same color as noon sunlight, nor is it the same color as afternoon sunlight. Likewise the light of overcast days is quite different from sunlight. In general there is no way of correcting for these light conditions and most pleasing color values are usually obtained in the middle portion of the day. (Noontime is not so good for some subjects because of the hard shadows cast by overhead light.) In the case of scenic views, however, there are many times when early morning or late evening will make a very much more pleasing effect just because the light is different. When close-ups of people are made, it is better to have as close an approach to "white" light as possible. The soft light of an overcast day, recommended earlier for portraits, will not be just the right color but the lack of harsh shadows more than make up for this deficiency.

Questions and Answers

Question: Can an older projector with a 250 watt lamp be modernized to use a 500 watt or 750 watt lamp?

Answer: Some makes and models can be converted to take higher powered lamps if the cooling system will take care of the added heat generated. Correspondence with the maker of the projector will give this information. Many people owning projectors with 250 watt or 300 watt lamps feel that their equipment is out of date merely because the newer projectors are usually equipped for the higher wattages. Actually 250 to 300 watts is all that is desirable for the ordinary home picture 40 to 48 inches wide and owners of such projectors often get better projection from their low power lamps than the owners of 750 watt super machines who "burn up" their 48 inch screens. Too much light on a small screen will make black and white pictures look grey and grainy, make color films look washed out.



"Twilight"

*Dr. Max Thorek, F.R.P.S.
Chicago, Illinois*

Advanced Medal Print

In our opinion this picture ranks among the finest things which Dr. Thorek has done and that is saying quite a lot. Notice first of all the simplicity of the treatment and how this lends dignity to the subject, and in a subtle way suggests sincerity and understanding on the part of the photographer. Notice the exceedingly fine placing and lighting of the hands. These play a most effective part in the picture, and yet are clearly subordinate to the face. Notice how skillfully the props, principally the back, arms and wheel of the wheelchair are controlled so that they play their minor parts fully but without undue intrusion at any point.

Notice that this pose is hardly a pose at all but rather simply the natural attitude of the subject, possibly slightly modified for the purposes of arrangement. It becomes evident therefore that the portrait photographer who wishes to do better things must have a sympathetic understanding of his subjects. It is only through such knowledge that he can recognize and make the most of the natural attitudes which are always the best poses. Such a knowledge can only be developed through intelligent and persistent observation of people. This is much the same sort of study as the competent actor gives to his role in a play. This picture shows that Dr. Thorek has gone far in that direction.

Data: Paper negative process; 13 x 16" bromide print.

Second Award

Advanced Class



"Home"
Marijan Szabo
Jugoslavia

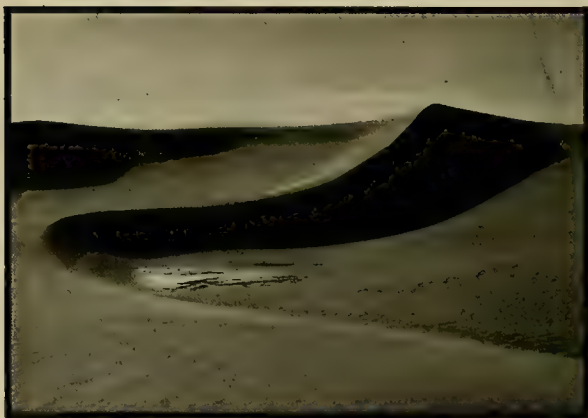
precisely the various tonal areas from light to dark are kept separated. In order of brightness these are the sunlit road; sunlit wall; shaded cliff behind the figure; shaded roof of the tunnel, which receives reflected light from the road; and the shaded roadway in the lower left. All of which is, of course, the result of well balanced exposure and development.

Data: 6 x 6" cm. Rolleiflex; F:3.5 Tessar; Agfa Isopan 17/10 DIN developed D-76d; 9½ x 11½" print on E. K. Bromesco.

■ The theme of this picture is really the warmth and brightness of brilliant sunshine. Without the brilliant, luminous quality of the light which is so splendidly rendered, this picture would be commonplace indeed. This factor, however, gives the picture heightened emotional significance — we can actually feel the warmth of the sunshine on the rider's back. The remainder of the picture is simply a pleasing arrangement of mass, made more interesting by an accent of texture in the rock wall of the tunnel and a strong dark accent in the figure. Notice how

Third Award

Advanced Class



"Sand Dunes, Death Valley"
R. F. McGraw
Sierra Madre, Calif.

■ In writing of sand dune pictures we have repeatedly stressed the importance of simplicity and movement of line. These are virtues in any picture but the photographer has unusual opportunities to find beautifully simple lines when he is dealing with sand dunes. Observe how satisfying they are in this picture. We are well aware of the difficulty of obtaining shadow detail in such a shot. In many cases detail can be sacrificed without too much disturbance. Here, however, the large patch of shadow is playing an extremely important part and we therefore feel

that it would help greatly if detail could have been shown there to some extent.

Data: 4 x 5" Graflex Series D; 8¼" Meyer Plasmat; E. K. S.S. Pan., in D-76; 11 x 14" print on Defender Velour Black DL, sepia toned.

Fourth Award

Advanced Class

■ In any shot in which mist, dust, smoke, etc., is involved the difficult problem is to record just enough of the effect of the dust, or whatever it may be, and no more. There seem to be two factors which make it necessary to carefully limit such an effect. Under most circumstances, especially with dust or smoke, the camera tends to exaggerate the effect. (We are not considering the possibility of eliminating mist through proper filtration, and it is well to understand that filters will not cut through dust or smoke.) The second factor is a psychological one and has to do with the fact that the eye observes continuously over a period of time, while the camera records but a single moment. A cloud of dust, for example, is a moving, changing thing. It is less opaque one moment than it is the next. The eye therefore has opportunities to see through now and then, and the mind's impression of the scene is a cumulative one. Both of these last advantages are denied to the camera. Consequently the photographer should make his exposure when the obscuring effect of the cloud appears somewhat less than he wishes it to appear in his picture. Notice that Mr. Gould has made his shot well before the dust cloud has attained maximum proportions. In doing so, of course, he was no doubt influenced by a desire to catch the action of the dirt leaving the scoop.

Data: 1/90th sec., at F:11, on E. K. Panchro Press, with K-2 filter; 11 x 14" bromide print.



*Fletcher O. Gould
Pasadena, Calif.*

Fifth Award

Advanced Class

■ We think that the idea of showing the artist in relation to his work is a good one, and that the two negatives which were used for this combination print are individually well made. Their combination, however, is not as successful as it might be. There are several places at which the drawing shows through the head in the foreground. Apparently the two negatives were simply bound together and printed as one, or else they were printed one after the other by successive projections, after the manner described by William Mortensen in his book "Projection Control." In either event the parts of the background negative which overlapped the foreground negative should have been opaqued out. The second difficulty which is apparent is that there is no feeling of space between foreground object and background, they both appear on the same plane. This difficulty can be minimized by including appropriate cast shadows with the foreground figure.

Data: 4 x 5" R.B. Auto Graflex; 8 1/4" Celor, F:5; 2 negatives; portrait taken in sunlight on E. K. S.S. Pan.



*"Franz Brasz, Artist"
Virna Haffer
Tacoma, Wash.*



"No. 2"

Amateur Medal Print

Paul Kozak, Jr.
South Euclid, Ohio

■ There is no getting away from the fact that the ability to visualize the finished picture and to appreciate the implications of the subject matter at the time the exposure is being made, is among the most important skills which the photographer can develop. Let us see how it works out in this case. It is a bright sunny day with a few clouds in the sky and we come upon this group of flowers. How can we best make use of them? Letting the flowers make what impression they may upon us we notice the tall stems and how the flowers seem to stretch themselves toward the sun and the sky. Is there not something of the joy of living, something vital in this reaching upward? Here then, is a theme which will surely produce a ready emotional response if properly presented. How should it be presented? Since we want our flowers to "reach upward" a low camera angle is called for, and since an infinity of space above seems a part of our theme we want our clouds low so that there will be nothing to limit the vast reaches of the sky. Perhaps we didn't notice until we had our camera angle roughly selected that having the flowers stretch beyond the cloud into the blue sky greatly intensifies the feeling of upward movement. In fact it really puts the finishing touch to our picture which would be much less effective without it. All this, of course, is highly imaginary but the photographer who can learn to feel his way into a picture in some such fashion as is awkwardly sketched above will be more than repaid for his efforts.

Data: Contax; 50 mm. Zeiss Tessar; 1/50th sec. at F:6.3, on Agfa Finopan in Edwa 20; light green filter; 11 x 14" print on E. K. Opal L.

Second Award

Amateur Class

■ In discussing the fourth award, amateur class in the August issue we called attention to what appeared to us to be a violation of empathy in the relation of background to subject matter. We mention that now to point out that in this quite similar subject the background tone is beautifully related to the principal object. A comparison of the two pictures should make the point quite clear. This picture is beautifully arranged, nicely lighted and splendidly photographed. Observe how the darker elements have been brought out at the base and how these add support to the blossom and stability to the composition. If the picture lacks anything it is a clearly defined point of emphasis, which would, of course, appear in the heart of the blossom. This could probably best be obtained by a delicate concentration of light at the desired point, or possibly by resort to secondary back-lighting which would throw the pistil into stronger relief against the stamen and petals.

Data: 8 x 10" glossy bromide print.



"Hawaiian Flower"
Roi Partridge
Mills College, Calif.

Third Award

Amateur Class

■ We seldom see wrestling pictures which are pictorially effective because if we consider nothing more than the concentrated overhead lighting it becomes plain that the photographer must work under serious disadvantages. The general form is interesting here, and the confusion of the figures, so far as their being tangled up with each other is concerned, is justified because that is the theme of the picture. There is another kind of confusion here, however, which is due to the lack of control over the lighting. Regardless of how complicated or confused an arrangement may be when such a thing is called for, the lighting should reveal modeling and structure with clarity, if good pictorial photography is to result. Mr. Fishback has minimized the difficulty but has not overcome it. An inspection of paintings with similar subject matter, particularly the work of George Bellows, should make this point much clearer.



"Whose Is Which"
Glen Fishback
Sacramento, Calif.

Data: Leica Model E; 50 mm. Elmar F:3.5; 1/60th sec. at F:3.5 on Agfa Ultra Speed Pan., in Champlin No. 15; 10 x 13" print on Defender Velour Black DL.



"Sunlit Cliffs"
R. L. Rundle
San Francisco

the job. If it were possible to use a lens of greater focal length and adopt a more distant viewpoint, this would decrease the size of the tree in relation to the cliff and we would have what we are after.

We might also point out that the rather extreme horizontal format is not in keeping with a subject which consists primarily of vertical objects such as the tree and the cliff. We can relieve this situation somewhat by trimming in from the left until the bright patch of sky in the upper left is eliminated and by trimming a similar amount from the right. Notice that this helps a little to decrease the force of the tree.

Data: Leica Model G; 50 mm. Summar F:2; exposure by Weston reading, on E. K. Panatomic in Gamma D; 9 a.m. in July; $6\frac{1}{2} \times 9\frac{1}{2}$ " print on Defender Velour Black DL, in Edwal 102.

Fourth Award

Amateur Class

■ This picture is pictorially interesting because of the nice play of light on the cliff, and because the pathway of light draws the eye onward into the picture. Notice how important the small house becomes in imparting scale to the scene. Nevertheless we do not feel that the cliff is made to appear as majestic and dominating as it might be. The large tree in the foreground which also cuts the top of the print is working against such an impression. We need something heavy on the left to balance the mass of the cliff but this tree, placed as it is rather over-



"Tobus Country"
Marion Partridge
Mills College, Calif.

Fifth Award

Amateur Class

■ The trees serve as much more than introductory material in this picture. They become the principal interest. The eye inspects the vista rather casually and then returns to enjoy the bits of detail which the splashes of sunlight reveal in the tree trunks. If the grove had been made up of somewhat larger, more closely spaced trees, it would have been possible to play up this aspect of the scene more strongly perhaps. Notice the very important part played by the two bits of foliage in the upper part of the picture. These serve to balance the dark masses in the lower part of the print and to check the directional movement of the tree trunks. Without these the eye would very likely slip out of the print.

Data: $7\frac{1}{2} \times 8$ " bromide print.

CAMERA CRAFT

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Dr. Max Thorek, F.R.P.S., for the Fort Dearborn Camera Club; Marijan Szabo, for the Fotoklub Zagreb; R. F. McGraw and Fletcher O. Gould, for The Pack Rats.

The following won prizes for their clubs in the Amateur Class: Paul Kozak, Jr., for the Cleveland Photographic Society, and Glenn Fishback, for the Sierra Camera Club.

The following prize winners have no club affiliations: Virna Haffer, Roi Partridge, L. L. Rundle, and Marion Partridge.

Contributing Clubs

Amherst Camera Club (Mass.)	Kamera Kranks (Durham, Calif.)
Berkeley Camera Club (Calif.)	Knoxville Camera Club (Tenn.)
California Camera Club (San Francisco)	Muskogee Camera Club (Okla.)
Camera Club of Richmond (Va.)	Oklahoma Camera Club (Oklahoma City, Okla.)
Cleveland Photographic Society (Ohio)	The Pack Rats (Pasadena, Calif.)
Florida Camera Club (Tampa, Fla.)	Photographic Society of San Francisco
Fort Dearborn Camera Club	Photo Pictorialists of Springfield (Mass.)
Fotoklub Ljubljana (Yugoslavia)	Riverside Pictorialists (Calif.)
Fotoklub Zagreb (Yugoslavia)	San Diego Miniature Camera Club (Calif.)
Lawthorne Camera Club (Cicero, Ill.)	Sierra Camera Club (Sacramento, Calif.)
Hocking Valley Camera Club (Lancaster, Ohio)	Taft Camera Club (Calif.)

STANDING OF CLUBS

Large Clubs Advanced Class		Small Clubs Advanced Class	
Fotoklub Zagreb	29	The Pack Rats	31
Fort Dearborn Camera Club.....	27	Denver Lensmen	14
Fotoklub Ljubljana	18	Yellow Springs Camera Club.....	5
Photographic Society of San Francisco	4	The Camera Clique	2
Miniature Camera Club of New York....	1	Small Clubs Amateur Class	
Large Clubs Amateur Class		Taft Camera Club	14
Cleveland Photographic Society.....	16	Calgary Photographic Society.....	13
Photographic Society of San Francisco	6	Lancaster Camera Club	5
Sierra Camera Club.....	6	Hocking Valley Camera Club.....	4
California Camera Club.....	5	Riverside Pictorialists	4
Camera Club of Richmond.....	5	E.P.I.C. Group	3
Miniature Camera Club of Oakland.....	4	San Jose Camera Club.....	2
Fotoklub Zagreb	3	Kamera Kranks	1
Photographic Society of India.....	2	Norfolk Photographic Club.....	1

SUMMARY OF COMPETITION RULES

1. Open to all, amateur or professional, club member or non-club member.
2. Closing date 1st of each month.
3. Place technical data, club membership if any, selling price, and whether or not you wish to exchange on back of print.
4. No entry fees or blanks required.
5. Stamps must be enclosed for return of prints.
6. Full explanation will be sent free on request or may be seen on Page 42 of January 1938 issue.

WHAT IS YOUR PHOTOGRAPHIC I. Q.?

This month there is a slight variation in the method used to check your photographic I.Q. Instead of giving a choice of four answers to a question, a statement is made and you determine whether it is true or false.

The scoring, as before, is as follows: 90% or better, excellent; 80% is very good; 70% is fair; below 60% there is no comment.

The ten following statements are either true or false. Check the one which you think is correct. Ten points are deductible for each error. Correct answers will be found on page 440.

1. The latent image on a film developed with elon comes up very slowly but gains density rapidly and steadily, while an image developed with hydroquinone comes up quickly all over and gains density slowly.

True..... False.....

2. In the January issue of Camera Craft, there was a caption which read, "Watch Out For the Stroboscopic Effect." This had reference to the perspective created in a portrait when the subject photographed is placed too close to the camera.

True..... False.....

3. All film emulsions are over-sensitive to blue.

True..... False.....

4. A photographer taking a picture with infra-red rays is using the deep red rays of the spectrum to make his exposure.

True..... False.....

5. An inherent characteristic of a high grade lens is the presence of a small amount of air bubbles within its structure.

True..... False.....

6. Polarized light is a cold light used to photograph minute insects in photomicrography.

True..... False.....

7. It is a faulty procedure to try physical development in a stainless steel tank.

True..... False.....

8. The words "contrast" and "density" when used with reference to a negative, are synonymous.

True..... False.....

9. Hardeners in a fixing bath have a definite effect on the curling of a print.

True..... False.....

10. The daguerreotype and the talbotype picture were both perfected in the year 1839.

True..... False.....

Notes and Comments

New U. C. Photographic Courses By P. Douglas Anderson Announced

University of California extension courses in photography, conducted by P. Douglas Anderson, F.R.P.S., will begin in San Francisco and Oakland during the week of September 12, it was announced recently by Miss Bernice Hubbard, class secretary. The list of courses and opening dates follows:

School Photography—description and use of cameras, lenses and shutters, practical application to outdoor work, printing, developing, papers, etc.; making lantern

and film slides. Credit 2 units. Opening dates: San Francisco, Thursday, Sept. 4 p.m.; Oakland, Wednesday, Sept. 4:10 p.m.

Principles and Practice—a beginning course; cameras of various types, lens shutters, printing technique, etc. Field trips. Opening dates: San Francisco, Thursday, Sept. 15, 7 p.m.; Oakland, Friday, Sept. 16, 7 p.m.

Miniature Cameras—lenses, accessories, films, exposures and developing, filter, portraiture, table-top photography, paper negative technique, copying, etc.; film

rips. Opening dates: San Francisco, Tuesday, Sept. 13, 7 p.m.; Oakland, Wednesday, Sept. 14, 7 p.m.

Darkroom Technique—a series of practical laboratory demonstrations in developing, printing and enlarging. Opening date: San Francisco, Monday, Sept. 12, 7 p.m.

The Extension Division is also offering a new course, "Composition for Photographers," for the first time, this fall. Mrs. Leola Dixon Devlin, M.A. in Fine Arts, will conduct the course. Opening dates: San Francisco, Friday, Sept. 16, 7:30 P. M.; Oakland, Monday, Sept. 12, 8:00 P. M.

San Francisco courses will be held at 640 Powell Street and Oakland courses at 730 Franklin Street.

Oakland Board of Education Announces Fall Classes in Photography

The Board of Education of Oakland, Calif., has just announced a new fall class in photography, under the direction of Mr. Roland Calder, well known pictorialist. Classes will be held in the Technical High School, 45th and Broadway, Monday evenings at 7:15 p.m. Meetings will begin September 12th and will continue for sixteen weeks. The classes are designed to encourage the use of the camera to get more interesting pictures. Each meeting will last two hours and will include talks, demonstrations and discussions.

The registration fee of \$2.00 also covers any other night school course.

Important New Eastman Films

Just as we go to press announcement arrives of three new Eastman films. Lack of space prevents our describing them in full detail, but here are the important facts.

Each of the films are supplied in 35 mm. and No. 828 sizes and should be available by the time this appears. The emulsions are especially designed for use in miniature cameras.

Kodak Plus-X. Panchromatic film with about twice the speed of regular Panatomic and with a somewhat finer grain than the older film. Recommended for general use in miniature cameras.

Panatomic-X. Extremely fine grained film of about the same speed as Panatomic. "Graininess is, in fact, so low that, with the new film, enlargements can be made of a size which will exhaust the sharpness of images before graininess is visible."

Kodak Super XX. Panchromatic film—the fastest Eastman has ever supplied for miniature camera use. About four times the speed of Panatomic, more than twice the speed of Super X. Recommended for all photography under difficult light conditions. Grain is kept to a minimum never before reached in a fast film.

To eliminate halation all three films are coated on a support of a bluish-gray color. The developed negatives will retain this color but it will not affect printing times. Exposure latitude is improved and the films are especially sensitized to the green so that they will not give overcorrection to red objects.

Effective emulsion speed of any of the films may be increased by developing at 70° or 75° F. but higher temperatures are not recommended.

New School

Helene Sanders, F.R.P.S., well known pictorialist, lecturer, and instructor, and Nicholas Ház, F.R.P.S., noted teacher of composition and modern photography, have joined forces to open a school of photography in the R.C.A. Bldg., Rockefeller Center, New York City. They plan to offer brief special courses in special aspects of photography such as portraiture, pictorialism, retouching, composition, etc., as well as thorough extensive training for either professional or amateur work. In short you can get just what you want. It would be difficult to find two people who are better qualified for such work, so we expect the new school to prosper. For further information write to Ház-Sanders Master School of Photography, RCA Bldg., Rockefeller Center, New York, N. Y.

New Course in San Francisco

A course in photography will be initiated at the Polytechnic Evening High School, 1st Ave. and Lincoln Way, San Francisco, on Aug. 15th. The course will consist of two weekly evening sessions throughout

the fall semester. Instructor will be Fred P. Willcox, a gentleman with a wide experience in all branches of photography. Full details are not available as we go to press. Those interested should inquire at the school. There is no charge for the course.

Many Distinctive Features in New Abe Cohen's Exchange

Imagine a chromium trimmed staircase designed in the most advanced modern manner, embellished with a background of beautiful photo murals, leading to a graceful semi-circular mezzanine.

This attractive feature sets the pace for the distinctive and charming atmosphere of the new, and larger Abe Cohen's Exchange at 142 Fulton Street, New York City.

One of the principal centers of interest for both professionals and amateurs is the large gallery designed for one-man exhibits. A most useful feature of the new building is the completely equipped dark-room available for use of customers at all hours, while an operating display of lighting equipment will emphasize correct illumination. Here also will be found enlargers galore with special dark rooms for demonstrating them.

In this ample building every conceivable requirement of photo enthusiasts has been met. One may shop at leisure without crowding, or if one's time is limited the arrangement of merchandise on the various floors is designed to facilitate selection.

Complete air conditioning maintains a comfortable atmosphere at all times.

Large warehouse facilities will permit Abe Cohen's Exchange to purchase on a large scale, and as usual the savings are passed on to the customer.

Third Rollei Salon "Rolls On"

Burleigh Brooks has put wheels on the Third Rolleiflex-Rolleicord Salon. Since it "opened" at Rockefeller Center last May, the show has been out on the West Coast—first in San Francisco and later in Los Angeles, Hollywood, Omaha and Denver, where, in each city, it was well-attended.

Arrangements have now been completed for exhibiting the Third Rollei in the major

cities of the East, this fall. The schedule for these showings is as follows:

September 13th, 14th and 15th—in Boston, Mass., Parker-House, Hawthorne Room.
September 20th, 21st and 22nd—in Buffalo, N. Y., Hotel Statler, Parlors D & E.
September 27th, 28th and 29th—in Cleveland, Ohio, Hotel Cleveland, Rose Room.
October 4th, 5th and 6th—in Detroit, Mich., Book-Cadillac Hotel, Washington Room.
October 11th, 12th and 13th—in Chicago, Ill., Blackstone Hotel, South Room.
October 25th, 26th and 27th—in Louisville, Ky., Hotel Seelbach.

In November the 250 outstanding prints which comprise the Third Rollei Salon will be shown in Indianapolis, Cincinnati, Pittsburgh, Washington, Baltimore and Philadelphia. Exact dates and addresses for these showings are to be announced next month.

ANSWERS TO "WHAT IS YOUR PHOTOGRAPHIC I. Q.?"

From Page 438

1. False. Reverse the order of elon and hydroquinone in the statement and it will be correct. Hydroquinone is known as a low potential developer and elon as a high potential developer.
2. False. The warning was intended for cinema workers. It had reference to such peculiar effects sometimes seen in projection as the "movie of a vehicle with spoke wheels, running along with the wheels apparently turning in the wrong direction, or perhaps not moving at all."
3. True. As a result some photographers will always use a light or medium colored yellow filter in taking pictures.
4. False. As the prefix "infra" suggests, infra-red rays are "under," "below" or, more understandably, "beyond" the red end of the visible spectrum. The truth of the matter is they are not red at all; they are invisible and nonactinic, except to emulsions specially sensitized to infra-red rays.
5. True. The optician to date has been unable to manufacture high grade optical glass without the presence of small gas bubbles. While they do have some effect on the transmissible light, the degree is so small as to be negligible.
6. False. With all the present-day discussion about polarized light, perhaps this one was too easy; at least it will help your score. Briefly, polarized light is light whose rays are vibrating in only one direction. By placing a polarizing filter over the lens of a camera, control may be exercised in subduing troublesome reflections or altering tone values.
7. False. Metal tanks as a rule should be avoided when using physical development. The exception, however, is stainless steel which is well adapted to this type of development.
8. False. Contrast is generally obtained in a negative by development, particularly prolonged development; the high lights are built up and the shadows are weak. Density is usually a matter of exposure determining the degree of opaqueness of a negative.
9. True. Prints fixed in a plain hypo solution have less tendency toward curling, but this fact is not put forward as a solution of the print-curling difficulty. Elimination of the hardener may produce troublesome stains and blisters, especially in hot weather.
10. True. Daguerre perfected his metal daguerreotype in France in 1839, the same year that Talbot in England perfected his paper, talbotype.

Exposure Guide for Superflash Photolamps

New complete Exposure Guides on the correct use of the five Superflash Photolamps with all Agfa, Defender, DuPont, Gevaert and Kodak films have just been published and will be sent without charge to anyone writing the Wabash Photolamp Corp., 335 Carroll St., Brooklyn, N. Y.

Weston Announces New Film-Speed Ratings

Amateur and professional photographers can now obtain the new film-speed sheet just issued by the Weston Electrical Instrument Corporation, Newark, N.J., containing the latest ratings on some of the newer films. The sheet also includes revisions, made as a result of exhaustive tests on American films and some of foreign make, have been shown to produce negative densities which today assure the most desirable photographic results, from the standpoint both of contrast and of printing quality. Copies may be obtained from photographic dealers.

New Developers

The American Scientific Products, Inc., 930 C. C. Chapman Bldg., Los Angeles, Calif., are just offering a new line of developers for film and papers. The manufacturer claims the following characteristics for these new products:

Parvanol Ultra Fine Grain Developer: A developer giving exceptionally fine grain and requiring one-half normal exposure. Developing times range from 8 to 17 minutes at the recommended temperature of 70 degrees F. 32-oz. bottle \$1.40.

Poly-Thermic Fine Grain Developer: A fine grain developer which can be used at temperatures ranging from 65 to 100 degrees F. It is particularly recommended for the development of under-exposed negatives, in which case a temperature of 90 degrees F. is advised. 32-oz. bottle \$1.75.

D-F Combination Developer and Fixer: As the name signifies this solution develops and fixes the negative in one operation. 32-oz. bottle \$1.85.

Amitol Paper Developer: A paper developer giving blue black prints on either contact or projection papers. 24-oz. bottle 85 cents.

For further information write to the above address.

M. C. M. Photometer

The M. C. M. Photometer is a practical device used to determine what grade of paper to use and what exposure to give when making enlargements. It tells you more than that, however, for with it you can read the density range of your negatives and even find out when local control such as "dodging" will be an advantage. In short this instrument will tell everything you need to know to get the best possible print. It is priced at \$4.85 and can be seen at most dealers, or descriptive circulars can be obtained by writing to Haynes Products Co., Dept. H-9, 136 Liberty St., New York, N.Y. The same company manufactures the Hyp-O-Meter, a device which tells in an instant whether or not prints or negatives have been thoroughly washed. And also the Lite-Master an extremely useful instrument which turns any common household lamp into a photoflood. It will increase the actinic value of a lamp either $2\frac{1}{2}$ or 5 times as you choose. Ask for leaflets on these while you are about it.

Two New Agfa Cut Films

The two new Agfa cut films just announced are known as Triple S Pan, and New Type Isopan. Triple S Pan has color characteristics, brilliance and gradation very similar to Superpan Portrait film but is one full stop faster. It is particularly recommended for commercial illustrators, portrait photographers requiring a film with high speed and for photoflash work.

Isopan new type replaces the older emulsion and is remarkable for combining high emulsion speed with very fine grain. It provides brilliant gradation and full color sensitivity. It is twice as fast as the older Isopan and gives a definitely finer grain. This combination of high speed with fine grain is based on the same discoveries which produced the new Agfa Superpan Supreme 35mm. films for miniature cameras and the Academy award-winning Supreme in the motion picture field. New Type Isopan is recommended for commercial work where speed and brilliance are desired, whenever extreme enlargements such as photo-murals are to be made, and for three-color separation work.

CLASSIFIED ADVERTISEMENTS

Rate: 6 cents a word; minimum \$1.50 each insertion, prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Newest model $3\frac{1}{4}\times 4\frac{1}{4}$ Speed Graphic with Graflex Back and one cut film magazine. Used less than a year. \$56.00, or will trade for a 4x5 Speed Graphic. Also a $12\frac{1}{4}"$ Cooke f5.8 telephoto for a $3\frac{1}{4}\times 4\frac{1}{4}$ Graflex, \$49.00. David Keeble, 323 University Ave., Palo Alto, Calif.

◆Pupille $\frac{1}{2}$ V. P. Schneider-Xenon F.2 Compur. Specially made flange permits lens change. Case, filters, range-finder. Home made vertical condensing enlarger. A-1 condition. All \$60.00 cash. J. H. c/o Camera Craft, 425 Bush St., San Francisco, Calif.

◆Latest model Pathex 9.5 mm. Movie Camera, Zeiss Tessar 2.7 lens, filter, copy lens, titling outfit and case. \$40.00. Box 358, Palo Alto, Calif.

◆Two high grade stereo cameras, Taxiphote and other accessories at one fourth original cost. W. S. Cotton, 1611 Peck Road, El Monte, Calif.

◆Zeiss Ica Nixe B folding $3\frac{1}{4}\times 5\frac{1}{2}$ Zeiss Tessar F:4.5 in Compur; double extension bellows, black leather case. Make offer. J. M. Kaufman, 28 Darrell Place, San Francisco, Calif. Phone SUtter 1792.

◆5x7 Elwood Auto Enlarger, fully equipped, F:4.5 IC Tessar. List \$225.00. Sell for \$125.00. Loomis Studio, 265 Primrose Road, Burlingame, Calif.

◆Excellent buy—4x5 revolving back Auto Graflex with ten inch F:4.5 Plaubel Anticomar lens, double extension bellows, rising front, fine condition. Sacrifice \$85.00. Cut film magazine \$6.50. Address B. R. F., care Camera Craft, 425 Bush St., San Francisco, Calif.

SUMMER COURSE IN PHOTOGRAPHY

Individual and class instruction in portrait lighting, darkroom technique, retouching, and finishing—during July, August, and September.

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YOUR NAME

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with 3c postage will bring you valuable information on how YOU can learn to make money by doing art work with photographic prints.

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Cameras and Binoculars

Contax II, F:2 Sonnar, Case, like new.....\$132.50
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Zeiss 6x30 Binoculars, excellent condition.....35.00
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Zeiss 7x50, \$85.00. Zeiss 12x40.....85.00

H. Stern Inc., 872 Sixth Ave., (at 31st St.) New York

STUDIOS FOR SALE

◆Retiring from business. Large photo business for sale. Commercial, Portrait and Photo Finishing. Call in person or apply, A. C. Heidrick, 482 Alvarado St., Monterey, Calif.

CAMERA BARGAINS

25 ft. Dupont Superior Neg., 35 mm.....\$ 1.10
Recomar, $2\frac{1}{4}\times 3\frac{1}{4}$ F4.5, Case.....37.50
Rolleiflex, F3.5 E. Case, like new.....77.50

Leicas, Contax, Exaktas, Ikontas, Reflexes, Graflexes, Enlargers, Accessories, lights. Trades, time payments.

CAMERA MART INC.

70 West 45th Street, New York

PHOTO POSTCARDS

Extra profits to professional photographers, dealers, etc. Let us make your postcards, prints, packets, copies and photo greetings. Ferrotyped postcards \$15.00 per M. prepaid. Also display racks. Stamped envelope brings samples and price list.

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NATIONAL VIEW CO., Box 85-C, Winona, Minn.

RIFLES, SHOTGUNS, TARGET PISTOLS and other firearms accepted in trade at liberal allowances on Leicas, Contaxes, Graflexes, Weston meters, and all photographic equipment, motion picture and "still." Authorized dealers for every leading manufacturer, including Zeiss, Leitz, Eastman, Bell & Howell, etc. Write for catalog.

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Du Bois School of Practical Photo Retouching and Coloring

Specialize in these fascinating and profitable professions. For amateurs, professionals and sportsfolk. Individual training. Moderate fees.

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Leicas, Contaxes, Rollei-flexes and Primarflexes

Bought, sold, and exchanged.

$3\frac{1}{2}\times 5"$ Enlargements 7c each when enlarged from whole 35 mm. roll.

Miniature Camera Shop

1600 Post Street San Francisco, Calif.

CAMERA



"Refuge"

J. Laurence Anning

Ninth Chicago International Salon

CRAFT

ber 1938

SHEET

DEFENSE OF COLOR

SSIFICATION OF NEGATIVES

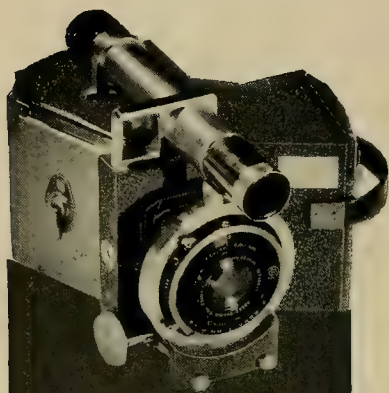
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Charles E. Kerlee

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THE NEW DEVIN 6.5 x 9 CM. ONE EXPOSURE TRICOLOR CAMERA



**AMERICA'S FINEST
PROFESSIONAL
TRICOLOR CAMERA
NOW IN SMALL SIZE**

**FIRST TWO-MIRROR
TRICOLOR HAND
CAMERA**

**SUPERIOR COLOR
SEPARATION NEGATIVES
FOR ANY COLOR
PRINTING PROCESS**

A new size adapts it to the needs of the amateur. New features make it the most advanced hand color camera ever built—coupled range-finder focussing; eye-level view-finder; fast, highly color-corrected anastigmat lens in compur shutter; compact, easy-to-hold shape.

But in every other respect it is the same Devin Tricolor Camera used by America's foremost professional color photographers—among them Anton Bruehl, Fidelis Harrer, Paul Hess, Victor Keppler, Nickolas Muray, Paul Outerbridge, Valentine Sarra, and many others.

The outstanding feature of the camera used by these men is its Two-Mirror construction. Small negatives, even more color than in black and white, must be critically sharp. Negatives made with the Devin Two-Mirror Tricolor Camera are critically sharp because the image reaching each plate has passed only through transparent pellicle mirrors and tricolor filters, which do not distort or diffuse the image. Tricolor cameras can be built with a single mirror. This cheaper construction, however, necessitates a "bipack" of two films exposed face to face, creating serious diffusion and loss of definition by the passage of the image through one of the relatively opaque films. For really fine color prints, there is no substitute for the two-mirror Tricolor camera.

This new 6.5 x 9 cm. color camera utilizes the famous Deville pellicle mirrors—so thin that the image cannot be distorted yet unconditionally guaranteed. Special Eastman plates are used in preference to film because they do not vary in size during development. New type metal plate-holders assure uniformly accurate registration in all sets of negatives.

Color separation negatives made with this camera are used for making color prints on paper by all of the subtractive printing processes—carbro, wash-off relief, Chromatone, and any other process requiring separation negatives.

Price, with lens \$365.00

A free booklet, packed with vital information about color photography, and fully describing the new Devin camera, will be mailed free of charge, on request.



DEVIN COLORGRAPH COMPANY • 305 EAST 43RD STREET • NEW YORK CITY

24 Sheet

Charles E. Kerlee

So far as we know the Union Oil outdoor advertising campaign, planned by the Lord & Thomas agency and photographed in color by Charles Kerlee, is the first to use natural color photographs to completely fill a 24 sheet billboard. We asked Mr. Kerlee to tell us about the problems involved and how these were solved. His interesting story appears below.—Ed.

IN response to your letter about the Union Oil 24 sheet posters. The fact that they are new and different will, I feel, be of interest to some of your readers. In order to give the whole picture, I think it would be best to start from the beginning of the idea itself.

Approximately a year ago, Mr. Robert Freeman, the Art Director for the Lord & Thomas advertising agency in Los Angeles, called me to come in and see him about a job he had in mind. When I arrived at his office, he explained that the job was an idea on 24 sheet posters for the Union Oil Company. They were to be in color.

The first step in working out the poster campaign was to make up a presentation, for presenting the idea to Mr. Badger, the advertising manager of the Union Oil Company. Mr. Bob Philippi, the Account Executive for the Union Oil account, came into the office, and after we had discussed the matter it was finally decided that the presentation should be made with Kodachrome, since it could be projected onto a large screen and would give Mr. Badger and the other Union Oil executives a better idea of how a finished poster would appear on the boards.

From the selling angle there were two ideas to be considered. One was close-ups of good-looking models. The other was landscapes of interesting locations in the Western states. While the close-ups would be interesting to do, and also could be handled along the more traditional lines of poster technique, the landscapes offered a really better sales angle. Since, in the landscape idea, we would be able to feature a different automobile in each poster, which of course would tend to create goodwill with the automobile distributors. Also, the fact that each month we would feature a particular locality, would encourage people to drive to these locations, thus promoting not only the sale of more gasoline, but also create a feeling of goodwill for the Union Oil Company in the locations featured.



Figure 1. Schmidt Direct Projection Machine

The choice between these two ideas hinged upon the question of whether we could make landscape photographs interesting and dramatic enough to make presentable posters. Naturally, in poster work the illustration must be as simple as possible and still retain a great attention value. Because the average time a person has to look at a poster is about thirty seconds, since, from surveys, the majority of the poster audience is moving past a poster about thirty miles per hour.

Naturally, Mr. Freeman and Mr. Philippi realized that in using photographs of landscapes, it would be impossible to make them all really orthodox posters, from a standpoint of pure "poster" design. However, they felt that the fact that the boards would be different, plus the added advantage of the goodwill they would bring to the Union Oil Company, would offset the fact that they might not be, in every case, what could be called a "smash" poster.

We realized that the test of the whole idea would be in the Kodachrome which I would have to make for the presentation. I was, to say the least, worried about the landscape idea, but I could understand that they were really the best bet from the sales angle.

I made the close-ups with very little trouble. And early one morning we started for Lake Arrowhead to make the landscapes. We drove up to the lake, looked around, and had a flat tire. And at 3:00 P. M. I hadn't made a shot. By this time the job really started to look tough. I made a few shots around the lake, which I felt were not quite good enough, and we started back to Los Angeles. On the way down the grade, I suddenly

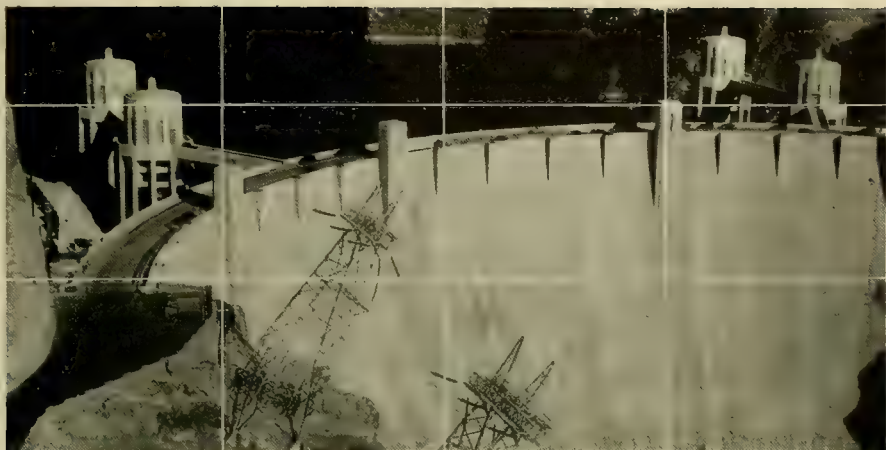


Figure 2. Boulder Dam poster, divided into 8 full billboard sheets and 4 half sheets

realized I was going to get a break after all. A heavy fog, or haze, had come into the valley below us, and the tops of the foothills and mountains jutting up through the fog made a very interesting and dramatic background. We found a suitable spot to place the car, and made a number of shots, using the fog and mountains as a background.

When the processed Kodachrome came back from Rochester, I picked the best transparencies from both the close-up shots and the landscapes and took them down to Mr. Freeman. Together with Mr. Philippi we projected them, and as we expected, the close-ups had more attention value. However, the landscapes were not bad. Mr. Freeman picked one close-up and one landscape transparency, and I made 16 x 20 black and white enlargements from them, which were cropped to the 24 sheet proportions and mounted with the layout for a finished poster. These, with the Kodachrome slides, were presented to Mr. Badger of the Union Oil Company.

It was finally decided that the advantage of the goodwill and sales argument on the landscape posters more than offset the advantages of the close-up illustrations.

Now that the campaign was definitely going ahead, it was necessary to decide about the technical questions involved in making the posters. While Kodachrome has certain definite advantages over the one shot camera, so far as ease of handling, speed, and the greater depth of focus obtained with the short focus lens are concerned, the fact that the finished poster would be a blowup in color to 8'10" x 19'8", automatically eliminated its use.

Mr. Lee Jennings, of the Schmidt Lithograph Company, came down from San Francisco and explained their process of reproducing the posters, and also the reasons for density, contrast and gamma of the type of print and separation negatives they would need.

The method of reproducing the posters is a new application of the Direct Projection method. Direct projection is entirely photographic,

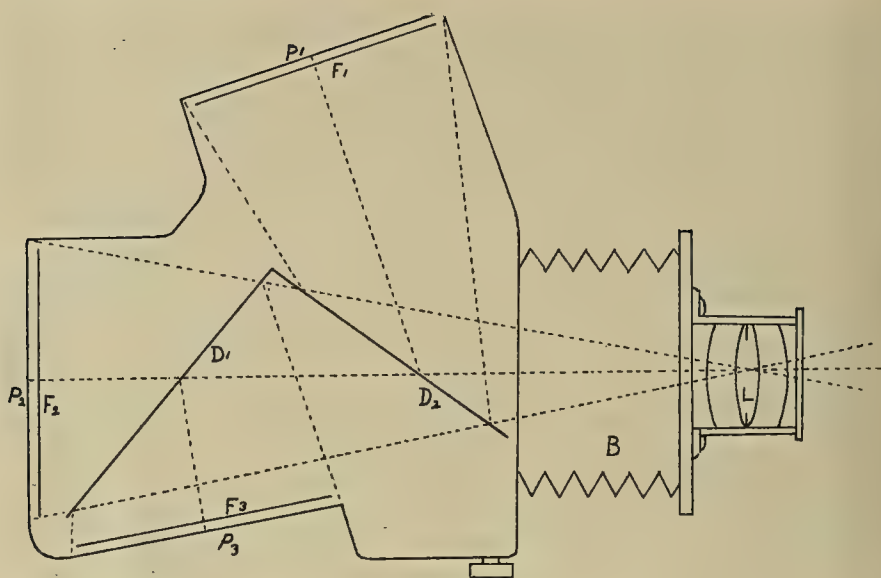


Figure 3. Nicol-Pratt Color Camera

This is approximately what happens inside the color camera in making an exposure: Light entering Lens L passes through dividing devices D1, D2, then through Filter F2 and forms image on plate or film at P2.

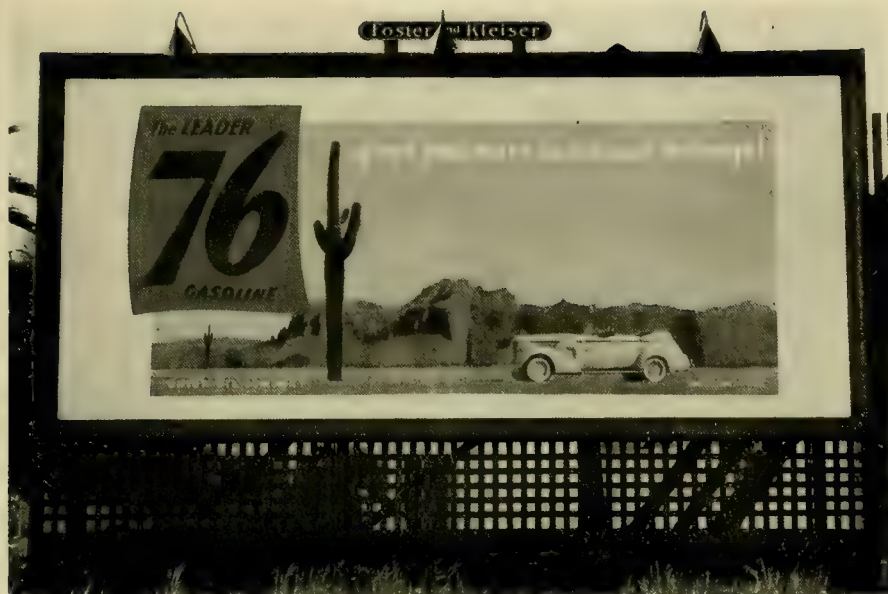
Light entering Lens L is reflected off divider D2, passes through Filter F1 and forms image on plate or film P1.

Light entering Lens L passes through divider D2, is reflected off divider D1, passes through Filter F3 and forms image on plate or film P3.

Dividers and filters are so arranged that identical images are formed on all three plates or films, both with regard to size and exposure. Each filter gives a sharp cut of the required portion of the spectrum. The filters are blue, red and green. The resulting negatives are known as the yellow printer, the blue printer and the red printer.

which naturally is a great advancement over the old hand-drawn crayon process. In the crayon process, the result of a poster depends upon the ability of the poster crayon artist to reproduce the original art work. Obviously, it would be almost impossible to reproduce a color photograph in this process, and retain its photographic quality.

On receiving our color print and separation negatives, the lithographers make photographic positives on glass from the separation negatives. The color print is used as a color guide, although occasionally the lithographers make separation negatives from it, in order to supplement the original separation negatives we deliver them. Any retouching which is necessary is done on the glass positives. Then, from the positives, the lithographer makes 200 line screen negatives. These negatives are projected through a very large projection printer, equipped with condenser lenses, onto sensitized zinc plates. These plates are developed and etched, and are then ready for the presses. This large projector is a very interesting machine. It is set on a heavy base, similar to a lathe bed. The light source consists of a series of rotating high voltage arc lamps. (Figure 1.) The poster is not projected full size onto one large plate, but is divided into what is called 8 full sheets and 4 half sheets. (Figure 2.) So the plate making



*Figure 4. The first billboard—Superstition Mountain,
near Phoenix, Arizona*

and printing must be "on the head" since, when these sheets are assembled on a board, they must match for color and density.

In regard to the photographic technique, we use a Nicol-Pratt 5 x 7 color camera. It is a two mirror camera, shooting three negatives at once. The following sketch is approximately the way the camera works. (Figure 3.)

The filters are blue, red and green. Consecutively the resulting negatives are known as the yellow printer, the blue printer and the red printer. From these negatives we make a twenty-inch carbro print. The print is flowed with a celluloid compound, which makes it possible for the layout artist to letter on the print itself, so that when the print is sent to the lithographer, it is a finished poster, just as it will appear on the boards.

Although our lens equipment had been and was satisfactory, to make doubly sure of critical sharpness we ordered a 12-inch F.9 Apo Tessar lens. From our tests and the use we have made of this lens, I cannot recommend it too highly. It certainly is a beautiful piece of glass. We also rebuilt our projection printer in order to get the maximum amount of definition. And in all our shots we stopped to F.32. As you know, poster colors are seldom found in nature. To give our landscapes the brilliance and "punch" we needed, we had new filters made, to give us a stronger cut and so increase the brilliance of the colors. In making the prints, it was necessary to push the carbro technique around considerably, in order to get as much body, and at the same time as much brilliance, as we desired in our prints.

Making a list of locations to be photographed was no small item, since the locations had to be in the western states, and had to have a definite tourist attraction. It was also necessary that the photographs of the loca-



Figure 5. Another shot showing the camera tripod wired to the rocky mountain to keep it from being blown away during the making of the Boulder Dam picture. Mr. Kerlee is standing behind the camera, beside it is Mr. Pratt, the color technician, and the gentleman in the hat is Robert Freeman, Art Director of Lord & Thomas.

tions appear on the boards at the right time. This meant we must photograph locations at least two months before that time. For example, a photograph of the desert or a ski scene in Yosemite would look very much out of place appearing on the boards in July or August. Also, the choice of locations was limited to places which could be photographed. While there are any number of beautiful landscapes in the western states, the locations to be used had to be simple in composition, had to have as much natural strong color as possible, and had to be so situated that a car could be driven into the picture. And if possible, it was necessary also to use scenes which would be recognizable to the public.

Mr. Freeman made a rough sketch of the first poster, which was to be a desert shot, with a car and a Joshua tree in the foreground, and a mountain in the far background.

We spent a day or two checking locations around the Mojave Desert, but were not satisfied with those we found. We finally decided that a Sahuaro Cactus would be a more interesting shape than a Joshua tree. To get a Sahuaro Cactus, it was necessary to go to Arizona. We went to Phoenix, where we arranged with the Buick distributor to use a new Buick phaeton. The first day we spent in looking for a location. While there were any number of cacti, they didn't seem to grow exactly in the right places, so far as we were concerned. We wanted to use a low angle, and in most spots the sage brush grew rather high. Toward the end of the afternoon we came upon a large field which had been entirely cleared of sagebrush and other desert plants. Except that in the center stood a beautiful Sahuaro Cactus. We drove onto the field with the car and got out our



Figure 6. Midway Point, Monterey Peninsula board. If you will examine the picture, you can see where the car has been run out over the edge of the road.

cameras, and I checked the location. For checking locations, I use a 4 x 5 Graflex. The ground glass is matted off in the proportions of the poster.

Fortunately, about five miles away was Superstition Mountain. The location almost matched the sketch. We set up the color camera and got the car into position and made a test shot, which would be developed that night in the bathtub at the hotel, to check our register, light, and things in general. I made a rough sketch, indicating the time, the location of the sun, how many models I would need, and we drove on to see if we could find any better locations. We didn't.

This procedure was followed for practically all the posters we made. However, in most of the other locations we did not follow a sketch.

The following morning we were on the set before sunrise. We photographed it in early morning light, at noon and late afternoon. The early morning light was really the best. But I have found it is always wise to watch a set throughout a whole day, since you may think you have the best light, but can't be sure until you have seen the set in other lights. (Figure 4.)

After each day's shooting a test set of negatives must be developed, in order to check the register in the camera, the exposure, and the numerous variables which one has to contend with in photography. The developed test set of negatives also gives us a feeling of security between the time we leave a location and arrive back in Los Angeles. If the test negatives are all right, we are pretty sure we have the shot in the bag.

This procedure was carried out on all our trips. However, a few things happened which might be of interest. On the Boulder Dam trip, we were dubious as to how we could fit the tall, rather narrow shape of the dam into the horizontal format of a 24 sheet, which on a 5 x 7 negative is about $2\frac{1}{2}'' \times 7''$. We finally found one place from which to photograph it. Our



*Figure 9**

The finished Yosemite billboard picture



Figure 7

Making the Yosemite billboard. The photograph shows how a 3½' hole was dug in the snow for the camera. Mr. Freeman is wearing dark glasses, hat; Mr. Pratt is beside camera; Mr. Kerlee is directing models.



Figure 8

In order to get the car in the Yosemite picture, it had to be blocked up above the snow banks on either side of the road. Mr. Kerlee is standing in front of the car.

*The billboard pictures are Black and White prints made from the red Color negatives, and are composed to balance with the "76" banner on the posters.

Figure 10
The platform which was built for the camera, in order to get the angle Mr. Kerlee wanted for the Mt. Shuksan shot. Mr. Kerlee is shown on the platform.



camera was placed on a high rock which jugged out over the side of the canyon. It was necessary to wire the tripod on the rock, since the wind blew so strongly. (Figure 5.)

On the Midway Point, Del Monte board we had to cut down several small trees and run the car out over the edge of the road to make everything fit into our composition. (Figure 6.)

In Yosemite, in order to show at a glance that the picture was made in Yosemite, it was almost imperative that we feature Half Dome. Now, if you have ever been in the Yosemite Valley and tried to make pictures of the valley floor, and also include Half Dome, you will understand our problem, since we were forced to work with a 12-inch lens on about half of a 5 x 7 plate, and make a horizontal picture. To add to our worries, there were about four and a half feet of snow on the valley floor, and we had to have a car in the picture.

After a lot of hiking over soft snow, we found a location at the far end of the valley without trees in the immediate foreground, and which had a road opened through the snow. However, we still had some work to do, since with the camera on the snow, most of Half Dome was sticking out of our picture, and the car was hidden from view, because of the snow which was banked up on the sides of the road.

We first dug a hole about three and a half feet deep and put the camera

into it, grading the snow away from the hole. Then we blocked the car up on the road so that it would be above the snow banks. We arranged our models and snapped the shutter. I certainly would have enjoyed having along some of those artists who cry "You photographers have such an easy time—all you do is snap the shutter." (Figures 7, 8, 9.)

The shot I like best is the one we made in Washington. When we left Los Angeles, the idea was to photograph Mt. Rainier, so we took a train to Seattle. Arriving in Seattle, we started out by automobile to find a suitable location from which to photograph the mountain. Due to the fact that we must work two months in advance, it was necessary to get the Rainier shot in early June. This year, it seems, the snow was exceptionally heavy. Also, since the board would run in the middle of the summer, it was imperative that the foreground of the photograph have no snow in it. We drove up and down and all around Mt. Rainier for three days, but found no suitable location. By this time I was a little worried, since we had come fourteen hundred miles to get a photograph, and as yet I hadn't even had the camera out of the case. The third night, while looking through the tourist folders, I happened to see a picture of Mt. Shuksan in the Mt. Baker Park. This mountain is about sixty miles out of Bellingham. The next morning we left for Bellingham, and that afternoon drove to Mt. Shuksan. The mountain was a beauty and on a curve in the road I found a spot from which I could photograph it. However, to get the car in the picture, it was necessary to build a platform out over the canyon for the camera. Also, due to the fact that we were surrounded by large trees, the sun only hit the place where the car and models would be posed for about four minutes during the day. However, we got the platform built, secured the models, clothes and car. And about 4:00 o'clock on the third day in Bellingham we clicked the shutter. (Figures 10, 11.)

Probably the most interesting thing about these posters is the public reaction to them. The Union Oil Company has received a large amount of what might be called fan mail. Letters from all parts of the west have been received, congratulating the company on their use of the boards. A woman in El Centro, California and one in Tacoma, Washington requested copies of the 24 sheet on the Monterey Peninsula (Midway Point) to use as murals in their living rooms. A store in Long Beach, California (Figure 12), and one in Riverside, California used the Monterey poster and the beach scene for backgrounds in their show windows. The Press Club, and also the Golden Lion Cocktail Lounge in San Diego, California, used reproductions of several of the posters for murals. (Figure 13.) Automobile dealers and garages have used them for their showrooms. A little Theatre in Berkeley, California used one of the posters for a backdrop. And two churches used one of the posters as a wall decoration for bazaars. Naturally, this interest has been both interesting and gratifying to all of us who are working on the boards.



Figure 11
The finished Mt. Shuksan billboard picture



Figure 12
The Monterey Peninsula board used in a Long Beach, California store show window.



Figure 13
Monterey, Superstition Mt. (Arizona), Boulder Dam, and beach scene billboard photographs used as murals in the Golden Lion Cocktail Lounge, San Diego, Calif.

In Defense Of Color

Gordon F. Cronkhite

FEW people, regardless of their preparation, have ever attained the success of being completely right; while seldom do many of us achieve the equal distinction of being one hundred per cent wrong. Condemnation or approval, no matter how well founded and considered still exists primarily as opinion; and, as such, is subject to the pervading bias of personal preference. The fact that argument becomes necessary clearly admits of the possibility of a counter argument. So, perhaps, before we agree or dissent, it might be better to determine the facts of the evidence and disregard the manner of its presentation. Recent criticism of methods of photographic color reproduction are true to some degree; but surely, exception must be taken to certain phases of the arguments presented.

Today the reproduction of natural colors by purely photographic processes has traveled a long way beyond the experimental attempts of earlier years. The road is not closed yet, and it probably still has a long way to go. But, through the continuous efforts of chemists and other expert technicians color photography has become a very definite new medium of photographic expression. It remains, no longer, the exceptional photographer's periodic nightmare; nor, admittedly, is it yet the occasional snapshotter's easy meat. However, this new field has been created for many careful workers, professional or amateur, who will consider cleanliness as the first of the virtues. It needs reasonable skill, moderate equipment, and some patience and perseverance. Difficult and exacting it may be, and marred by many failures and disappointments; but still it can hold a world of profitable pleasure for anyone with the ability to acquire some skill in mastering it. The completion of any fine print must thrill even the most hardened darkroom addict, but there still remains a new excitement as the final color transparency slides into perfect registry, and the natural colors of a new print are first visible.



"Nicholas Ház"

Yousuf Karsh

Ninth Chicago International Salon

The standard cliché that technical skill and superior equipment universally means poorer pictures is still rampant in the minds and magazines of the nation. Perhaps it is true, that artistic and technical skill are seldom compatible characteristics, but fortunately the camera has nothing to do with that. It has not yet, nor will it ever, become an originator of artistic expression. It remains, like the tools of any trade or craft, merely the record of the ideas of the operator, who is lucky or skillful enough to have any. Undoubtedly, the camera has graduated from the field of pure documentary photography, and is slowly earning a solid position as an added artistic accessory in the hands of a small enviable few. My own meagre experience, and possibly my limited abilities, in this particular type of pictorial work, might prevent the expression of opinion, but it would seem certain that the recreation of natural color could hardly be classed as an unmitigated evil. Distasteful as the thought may be to many; some may still take comfort in the fact that few photographs are hung in the homes of this country that do not include, as the principal interest, the face of a friend or relative, or, some personality that we admire or love. And, in portrait work of this kind, true color can give an added value of reality and naturalness far beyond the insipid limits of hand tinting or plain monochromatic rendering.

To anyone who has never made a bromide enlargement, the technical difficulties of exposure and development may appear ridiculously large. In the production of any really fine print there are difficulties; but they have been overcome by others, and need not be insurmountable to any practiced darkroom operator. So in color: balance, contrast, and registry, all will present definite obstacles that require patient, careful, and exact work to overcome. But none of these, nor are there any others, that present a barrier so formidable that it becomes impossible to cross. Good, and better than good natural color prints have been made, and are still being made by one of the three major commercial methods now available. The professional has no magic touchstone that sets him apart from the common herd. There are no secret processes involved. Any good camera, adaptable for cut film, becomes, with the addition of a Tri-Pac holder, a one-shot color camera, capable of producing color separation negatives. Any enlarger can print positives from these negatives. And, finally, any person with some darkroom experience, normal intelligence, and three trays, can bleach and tone these positive transparencies, register the three together, and bring forth to a waiting world a color print. Beautiful or terrible it may be, but the responsibility rests on the operator, and, neither the materials nor the method should be forced to shoulder the blame nor enjoy the praise.

As an amateur, not obliged to spend all of my time and energy in commercial work, I have been able to do quite a bit of experimental work in the technique of the various types of color printing. When my attention was first brought to the possibilities of color, I added a few Tri-Pac holders to the five by seven camera already on hand, and later on acquired a single mirror back to improve the definition of the red record.

The realization came, soon after my first dismal failures, that, to produce consistent prints, a standardized system of procedure must be evolved that would either control or eliminate the numerous variables. To do this,



"Dawn"

Gerhard Kerff

Ninth Chicago International Salon

all work was limited to a studio where lighting conditions could be absolutely regulated. Then a gray wedge was set up and many various exposures were made, until, by trial and error, each step was corrected or improved in turn. Much silver and many chemicals have gone down the sink, but a method of exposure and development has been perfected, so that negatives of proper contrast and balance can now be predicted with confidence. During the last few months a routine has been established that permits the completion of a print in two hours. Starting from scratch, this includes the making of all solutions, printing three positives, bleaching, toning and registering. This is done without an assistant, but there are times during the routine when three or more hands could be used to a distinct advantage; and a helper can make the work easier and smoother, but would not materially reduce the time. An ideal condition like this does not always apply, but it has been done and good prints produced on numerous occasions, where proper relative color densities have been determined by previous work. Under this operating system it is not impossible to complete a fair trial print by noon of the day following a sitting.

Recently, to help advertise a local charity performance, six different full color prints were completed and delivered from my studio in five and

one-half days. The first two sittings were arranged for Monday afternoon, and, as costumes were completed, further sittings were held each afternoon through Thursday. The help of a student assistant made it possible to synchronize the afternoon's work, while mornings were completely devoted to printing and developing positives. By Wednesday evening one batch of negatives remained undeveloped and in order to have them available next morning, work was continued that evening. All pictures were mounted and delivered by Saturday noon. Luck was definitely an added starter, for, three original prints, though hardly perfect, were still acceptable and in only one case was a third print necessary. It must be obvious to anyone that really fine work would be practically impossible in the time allowed for this contract. However, the work was undertaken and completed, and became the basis of a successful and much appreciated publicity campaign. The evidence in this case, at least, seems to indicate that color photography can not be the invulnerable Hydra-headed monster that so many of us are led to believe.

Good and bad pictures will continue to be made by professional and amateur alike, regardless of color or tone. That color, and the added compositional difficulties which it brings to any pictorial work, is the one final obstacle that prevents the creation of photographs of artistic merit, seems doubtful. To make that the basis of an argument seems confused reasoning. Painters, etchers, and sculptors have found their best type of expression in the various media available, and incomparable as a photographer's work must be to theirs, still some measure of similarity still exists. So, perhaps, the time may come when we can admit that there is more than one type of good photographer, and more than one type of good photograph. There must be many ideas that can be translated only in terms of color, and, if those ideas do exist, then they can be created, and beautiful pictures result.

Too much has been written emphasizing the many difficulties of color photography to be dispelled in the short space of this small article. And, unquestionably, many difficulties do exist. Expense is one. The shortcoming and limitations of Tri-Pac can be surmounted only by the addition of expensive new equipment, (the single, or even more expensive, the double-mirror camera). Three negatives and three positives are needed and many more chemicals than the worker in black and white would ever find necessary. And this alone should deter some possible converts. But there are still many, who can and should, at least, attempt this field. The processes and formulas, have all been printed and are readable, or can be purchased. There is nothing on earth that prevents the creation of good color photographs, except the photographer. If the experience of others parallels mine, there is a world of fun to be had in trying.

A Method For The The Classification Of Negatives

Earl G. Baird

THE beginner in photography usually has a very simple method for filing his negatives. He puts them in the first shoe box or other container that he can lay his hands on and there they accumulate more or less as the leaves falling in autumn. When the number of negatives is small, this may not be a bad system; as the shepherd of Biblical times knew all of his sheep by name the beginner knows all of his negatives without any definite means for classifying or filing.

As time goes by, the number of the negatives becomes greater, and eventually, it becomes necessary to introduce some kind of a system for classifying and filing. The first system usually adopted is to place them in envelopes more or less in chronological order, and to depend pretty largely upon memory of when the picture was taken for locating it at a later time.

Personally, I went through these two stages and then found it necessary to adopt a little more systematic method of filing the negatives according to the general subject. This method is used by a great many amateurs and professionals with good success. It is open to certain objections, however. It is necessary to write the name of the classification division on the filing envelope if one is to have a definite means for always returning the negatives to the same division. Furthermore as time goes on, in many cases it becomes necessary to subdivide some divisions further. If the name of the classification has been written, it often becomes difficult to change all the envelopes into the new subdivisions.

About two years ago, I found that the system I had used for a number of years was being outgrown and it became necessary for a third time to make a change. I resolved at that time not to adopt any new system of classification until one had been worked out which would take care of all possible future needs. Off and on in the past months, considerable time has been spent in working out and perfecting the plan presented in this article.

It seemed that the best method of approach to this problem would be to list all of the necessary or desirable characteristics in a filing system. These characteristics seemed to be:

1. *The system must be simple.* There should be no complications which would deter the beginner or any other person who really wished to have a workable method for filing his negatives.
2. *The system must be capable of expansion* to an extent which would care for a very large number of negatives on any conceivable subject.
3. *The classification of any negative should be as clear-cut and definite as possible* to avoid having to look for a given negative under several different heads.
4. *The mechanics of classification, filing and locating any negative should be reduced to a minimum.* Many fine systems for filing negatives require so many index cards and cross references that they break down of their own weight.

It seemed obvious that considerable help might be obtained in the solution of this problem by considering methods of classification of books as used in standard library practice. Up to about sixty years ago, there were many systems used in libraries throughout the country. Those familiar with one could not go into another library and expect to know anything about the plan used there. In the year 1873, Mr. Melvil Dewey worked out the first plan for the Dewey Decimal System which gradually came to be adopted by all libraries throughout the country. Many of the best features of this system can be applied with certain changes to a comprehensive system of negative classification.

There are, however, certain problems in the classification of negatives that are not met with in the classification of books for general use. In the first place, *many negatives must be considered from the personal standpoint.* A picture of my wife obviously should not be filed under the general heading of women, but should rather be considered because of her personal relationship to me. Perhaps most of the pictures taken by the average amateur are of this nature, and must be considered almost altogether because of the relationship of the subject to the photographer. Therefore, the general plan as worked out is arranged on this basis. Certain subjects, however, must be considered from an impersonal angle, and hence such subjects as science, commercial photography, and general pictorial subjects have been considered from the impersonal standpoint.

There seems to be no question but that the decimal system is undoubtedly the best that can be devised. All subjects are first grouped under ten general headings. These in turn, are subdivided further into ten subdivisions; and wherever desirable, any of these subdivisions can be further split up on the same plan. If any of the main divisions or subdivisions are not needed they can be omitted entirely; but if at any later time, it is desired to use these divisions, a place is already waiting for them.

The main divisions are as follows:

- 00 Self and Relatives
- 10 Home and Local Environs
- 20 Schools and School Life
- 30 Personal Friends and Associates
- 40 News. General Interest
- 50 Natural Science and Applications
- 60 Commercial



"Gliders"

Lloyd G. Miller

Ninth Chicago International Salon

- 70 Pictorial
- 80 Specialties
- 90 Geography and Travel

In the first group would be placed all pictures of the photographer and his relatives. After the family, the most important part of the life of most individuals would be the home. Hence in group 10 would be placed all pictures of the home and grounds, of the home town and immediate surroundings, of pets and domestic animals, and the other things that all go together to build up the general idea of "home." The first important contact with life outside the home is the school. From kindergarten to university some of the most important and pleasurable contacts of life are made in school. Classification 20 includes all of these subjects which are so important from the personal standpoint. In division 30 is placed all of personal photographs of friends and associates; neighbors, business or professional friends, vacation associates, and the like.

The remaining divisions are largely based on an impersonal classification of the subject rather than on the personal viewpoint as was used in the first four classifications. Any subject which has a general news value and might be used in a newspaper or magazine would be included in group 40. Today is the day of science. Many individuals are interested in some phase of science; and in fact, in a great many cases, photography is the

secondary interest and is useful largely because it is an aid to the primary interest in some phase of natural science. All such subjects are placed in group 50. Very few amateur photographers continue their work very long without feeling the urge or the necessity for selling some pictures in order to provide more "fodder for the hobby." In group 60 are placed all pictures except news pictures, which are made primarily because of their actual or potential commercial value. Of course it is very necessary to provide an adequate classification for the many subjects which may be taken for their pictorial value. These are all grouped under division 70. There are many unusual and peculiar possibilities in the field of photography. The main division 80 is given over to such subjects as greeting cards, trick photography, color separations, and the like. Probably next to personal photographs of relatives and friends, pictures taken on vacations or travel are of the most interest to the average amateur. Division 90 includes all such subjects.

The complete divisions for all classifications are:

- | | |
|--|---|
| 00 <i>Self and Relatives</i> | 27 University, graduate years |
| 01 Self | 28 Professional schools |
| 02 Parents and grandparents | 29 Special schools |
| 03 Brothers and sisters | 30 <i>Personal Friends and Associates</i> |
| 04 Brothers' and sisters' families | (other than school friends) |
| 05 Uncles, aunts, and cousins | 31 Neighbors |
| 06 Wife (or husband) | 32 Business or professional |
| 07 Children before their marriage | 33 Church |
| 08 Children and their families | 34 Sport |
| 09 Vacant | 35 Club or lodge |
| 10 <i>Home and Local Environs</i> | 36 Vacation |
| 11 Residences, exteriors | 37 Vacant |
| 12 Residences, interiors | 38 Vacant |
| 13 Home buildings other than residences | 39 Vacant |
| 14 Home grounds; gardens, orchards, etc. | 40 <i>News, General Interest</i> |
| 15 Pets | 41 Notable persons; portraits and small groups |
| 16 Domestic animals | 42 Large groups or organizations |
| 17 Automobiles, farm machinery, etc. | 43 Human interest studies |
| 18 Local streets and buildings | 44 Sports |
| 19 Local parks, woods, streams, etc. | 45 Architecture and engineering |
| 20 <i>Schools and School Life</i> | 46 Planned events; celebrations, parades, etc. |
| 21 Kindergarten | 47 Unplanned events; accidents, storms, disasters |
| 22 Elementary | 48 Mechanical inventions and curiosities |
| 23 Junior High School | 49 Biological specimens and curiosities |
| 24 Senior High School | 50 <i>Natural Science and Applications</i> |
| 25 Junior College | 51 Medicine |
| 26 College, undergraduate years | *52 Astronomy |



"Deep Water"

Adolf Fassbender, F.R.P.S.

Ninth Chicago International Salon

- | | |
|----------------------------------|----------------------------------|
| *53 Physics | 73 Illustration. Human Interest. |
| *54 Chemistry | Genre |
| *55 Geology | 74 Human form. Nude |
| *56 Paleontology | 75 Architecture. Industry. En- |
| *57 Biology | gineering |
| 58 Useful Science and Arts | 76 Landscapes |
| 59 Photography | 77 Pattern, Design. Decoration |
| 60 <i>Commercial Photographs</i> | 78 Still life |
| 61 Portraits | 79 Plant. Animal |
| 62 Groups | 80 <i>Specialties</i> |
| 63 Illustration. Advertising | 81 Copies |
| 64 Sports | 82 Greeting cards. Book plates |
| 65 Buildings and Grounds. En- | 83 Composites |
| gineering | 84 Exaggerated Perspective |
| 66 Machinery. Mechanical de- | 85 Duplicator or double expo- |
| vices | sure |
| 67 Animals. Plants. Flowers | 86 Bas-relief |
| 68 Aerial | 87 Reversals |
| 69 Copies | 88 Vacant |
| 70 <i>Pictorial Photographs</i> | 89 Color separation |
| 71 Portraits | 90 <i>Geography and Travel</i> |
| 72 Groups. Figure Compositions | 91 Short local trips |

- 92 Longer trips or vacations
- 93 National and State Parks
- *94 Europe
- *95 Asia

- *96 Africa
- *97 North America
- *98 South America
- *99 Oceana and Polar Regions

In most cases the general title of the group is sufficient and a further discussion will not be necessary, but in a few cases further explanation or even further subdivision seems to be advisable. Natural science is classified under 500 according to the Dewey library system and in the main, the same classifications have been used in the present plan except that the last figure has been dropped reducing the identification numbers to a two-figure number. In the division on natural science, the Dewey classification gives 510 to mathematics. Since this is a subject which will probably call for very few photographs except in the applications of mathematics, number 51 has been given to medicine rather than to mathematics. The Dewey system classifies medicine under the Useful Arts and Sciences, but this classification is not used; the various subjects being considered either as natural sciences or as commercial subjects. From 52 to 57 the divisions are identical with the Dewey system. This gives a very great advantage. If the photographer is particularly interested in one of the branches of science, he can go to the nearest public library and find further divisions of any of these sciences down to any degree of refinement which he wishes to adopt. For instance, the Dewey system gives a complete classification of all geological subjects under 550. By simply moving the decimal place one place to the left this whole plan, as worked out by experts over a period of many years, could be adopted by the photographer-geologist in the classification of his own geological subjects.

The subject matter for pictorial photography is so varied that it was impossible to make any completely satisfactory classification under ten headings. However, by grouping all landscapes of every kind together under one number it was possible to assign the other pictorial subjects to the remaining eight numbers. For those taking many pictorial landscapes, it seems that a further division might be useful. A classification of this kind is here suggested.

76 Landscapes featuring:

- 76.1 Human figures
- 76.2 Animals
- 76.3 Architecture
- 76.4 Trees
- 76.5 Hills and mountains
- 76.6 Plains and deserts
- 76.7 Bodies of water
- 76.8 Harbors. Boats and shipping
- 76.9 Clouds

The Dewey system has been used also for divisions 94 to 99 inclusive, but since biography and ancient history do not seem to be subjects for any great amount of photographic endeavor, the numbers 91, 92, and 93 are

* Divisions marked with asterisks are the same as those in the Dewey Decimal System except that the third figure is dropped.



"Still Life"

Rowena Brownell

Ninth Chicago International Salon

used to classify travel pictures more from a personal basis than from their geographic location. It seems that these divisions might be sufficient to take care of most of the pictures taken by amateur photographers except those doing rather extensive traveling. The photographer could decide whether he would rather file his vacation pictures under these divisions or to file them under 97, that is, North America. In this case, the Dewey Manual could be consulted for classification of any part of the United States. The first divisions for 97 as given are:

- 97.1 Canada. British America
- 97.2 Mexico. Central America
- 97.3 United States and Territories
- 97.4 North-Eastern or North Atlantic New England
- 97.5 South-Eastern or South Atlantic
- 97.6 South Central or Gulf
- 97.7 North Central or Lake
- 97.8 Western or Mountain
- 97.9 Pacific

I wish to emphasize very strongly that the *possibility* of this rather elaborate method of subdivision does not indicate the *necessity*. One can start his own grouping by using only certain of the main divisions and adding any new divisions or subdivisions as the number of his negatives

might warrant. When negatives are filed under a main division only, the filing number should be a single figure. For example, if all travel pictures are to be filed under one group, the envelopes should have the single identification figure 9 and not 90. Then, if at any later time it is desired to split up this division, one could take all of these envelopes and number them 91, 92, etc. without any erasures or changes whatever.

It should be noted that every picture is classified according to its purpose. For example, portraits are listed in three different places. News portraits of notable persons is 41. Portraits taken primarily for sale are in classification 61, while pictorial portraits are grouped under 71. A picture of President Roosevelt would normally be a news portrait while one of Mr. Jones taken at his request would be a commercial portrait. A picture of an old man sitting on a bench in the sun might be a pictorial portrait. Where similar subjects are classified in different groups, a corresponding number has been used wherever possible. Another example is:

- 32 Business and professional friends
- 42 News groups or organizations
- 62 Commercial groups
- 72 Pictorial groups and figure compositions

Also,

- 34 Friends or associates contacted through sports
- 44 News sports
- 64 Commercial sports
- 74 Human form. Nude

In the case of miniature negatives which are kept in strips or rolls, it would be impossible to adopt this plan for the negatives themselves. Most minicamers make contact prints or small enlargements for identification purposes. Instead of mounting these in chronological order, they could easily be mounted in a loose leaf book or on cards in which the arrangement would follow the plan as has been presented. Each picture would then have to have an index number indicating the strip or roll which contained the desired negative.

In many cases a division of the groups as given would be an advantage. For example, children are listed under the sub-division 07. Pictures of the first child could be classified under the sub-group 07.1; the second child, 07.2, etc. In these days of small families it is not likely that there would be any necessity of going beyond 07.9. If there were any more than nine children there wouldn't be any time or money left for photography anyway.

An exact position in the file for every negative is possible by using an accession number, following a colon as is frequently done in library practice. To illustrate, the first news portrait would be filed as 41:1, the next as 41:2 etc., these numbers merely indicating the order in which the pictures were taken.

If one circumtours the country in search of pictures, disrupts the household program by pre-empting the kitchen for a darkroom, and squeezes the last shekel out of the family budget for film and developers, he should certainly have some method of preserving these records of his achievement. A simple but adequate filing system will forever banish that oft-repeated expression, "I just can't seem to find that negative."

Figurines As Teachers

William S. Davis

FROM the earliest days of photography the matters of exposure and development have commanded the attention of photographers, beginners and experienced alike, since these two steps in procedure control in large measure the character of the negative image. Hence, the efforts which have been made to reduce to systematic practice the exposure and development of sensitive material with a view to eliminating failures due to guesswork by employing meters and tables for estimating exposures under varying conditions, together with standardized methods of development based upon allowing solutions of given composition and temperature to act upon the exposed material for pre-determined periods.

The practical result of all this is that one can obtain with much certainty negatives showing satisfactory printing quality, once the relationship between exposure and development is properly understood. Indeed, when the work is of a routine nature with but little variation in lighting and contrast range of the subject-matter it is possible to make the two steps essentially mechanical in practice. But pictorialists who desire to have special control over their work for the purpose of creating different effects, and all who wish to obtain the best possible results from subjects that show an exceptionally long or short scale of contrast, need to know how to exercise individual control over the character of the image by departing from the standardized practice found suitable in ordinary cases.

The simplest way to practically determine for one's self the variations produced by changing the exposure or method of development, or a combination of both, is to make a series of simple tests, using a subject not liable to alter in character between exposures. While many kinds of subjects may be made to serve, a still-life of some kind possesses the advantage of offering an opportunity to exercise full control over the tone range present through the selection of material and strength of lighting. This is why in



Figure 1



Figure 2

making the accompanying illustrations an ivory toned figurine was chosen for demonstration purposes, together with a background showing a considerable range of tone. The latter consisted of a sheet of very dark brown mount paper backed by cardboard, over which was placed on either side strips of lighter brown paper, and overlapping these white tissue paper arranged in loose folds to simulate soft drapery. Daylight was used for illumination, the strength being regulated to produce well defined light and shadow in the figure without harshness of contrast.

Eastman Commercial Ortho cut-film was in this instance the sensitive material employed, and a meter test indicated 12 seconds as being the "correct" exposure at $f11$ to obtain full shadow gradation. A correct exposure is commonly assumed to be one which will record as nearly as possible the range of tone visible to the eye in the subject-matter, but from the pictorial standpoint the "correct" exposure is that which in conjunction with suitable development yields the tonal effect necessary to create the intended impression, and to obtain the latter under some conditions involves theoretical over or under timing of the film.

Now in making a series of tests with a given subject one may follow several lines, namely: 1. Make a number of *differing exposures*, both shorter and longer than "correct," and develop all for a given period in any developer intended for general use. 2. Expose a number of films for the *same length of time*, then *vary the time of development* of each to see how contrast as well as density is gradually built up by prolongation of the time, until the limit is reached at the stage of maximum opacity of the highlights. 3. Vary *both* exposure and length of development. 4. Start as for



Figure 3



Figure 4

tests 1 and 2, then observe the effects produced by modifying the composition of the developer. In addition, one may work with a subject showing a very short scale of tones—i.e. "flat" in character, and try stepping up contrast by control in development, or go to the opposite extreme by selecting a subject excessively strong in contrast and work for a soft rendering.

To show the results of comprehensive tests along all the lines named would require altogether too many illustrations for the space at our command, so we shall limit ourselves to a few typical examples of suggestive value.

Number 1 received an exposure of 12 seconds—the time calculated as right to render full gradation throughout—followed by development for 5 minutes at 65 degrees Fahrenheit in a metol-hydroquinone developer of average type, mixed as follows:

Water	10 ozs.
Metol	4 grs.
Hydroquinone	10 grs.
Sodium sulphite	30 grs.
Sodium carbonate (EK)	30 grs.
Potass. bromide	½ gr.

The print, on No. 2 grade Azo, shows a full tonal scale, with good detail and gradation in both light and dark parts.

Number 2 was given 3 seconds exposure—one-quarter that of the first—then developed for the same time as Number 1, using a fresh lot of the same developer. This was also printed upon No. 2 grade Azo, and does

not show any very noticeable difference in rendering, though the negative was a little thinner and contained a trifle less well defined detail in the deep shadows than the first. Naturally, the printing time was adjusted to give a print of approximately the same general depth of tone as Number 1.

Number 3 likewise received an exposure of 3 seconds, but with material alteration in development. In this case the formula already given was modified by using one-half the amount of water (5 ounces instead of 10) and increasing the amount of bromide from $\frac{1}{2}$ grain to 2 grains. Development for $3\frac{1}{2}$ minutes yielded a negative showing very sharp contrasts and relatively little shadow detail, as is evident in the illustration, made upon No. 2 Azo, like the others. Such alteration in tonal quality serves to accentuate the lighter portions of both figure and background, causing the shaded parts of the figure to practically merge with the darkest area of the background.

Number 4 was exposed for 24 seconds—twice that of the first, and eight times as long as Numbers 2 and 3. The standard developer adopted at the start was used, but the time of development reduced to 3 minutes. The effect of increasing exposure is to make more prominent the detail and gradation in the shadows, while cutting down the period of development (or, alternatively, diluting the developer with water) reduces the scale of contrast without lessening the number of gradations or steps of tone. Reducing the normal period of development when the exposure is not increased will, of course, produce a softer printing negative, but in such a case some of the finer gradations in the deep shadows are likely to disappear from lack of sufficient development.

The lessons derived from these few experiments may be summed up as follows:

1. Usable, though not identical, negatives of subjects *showing an average range of contrast* can be obtained by exposures differing considerably from the theoretically correct one, thanks to the latitude possessed by most emulsions.

2. Highlights are accented and shadow gradations more or less merged by under-timing the exposure, such rendition being accentuated by prolonging development or using a concentrated solution containing additional bromide.

3. Increasing exposure brings out more detail in the deeper tones, with some tendency to softening or flattening of gradation in the light parts.

4. Shortening the time of development reduces contrast in the image, but with some loss of detail in the deep shadows if exposure is not increased by way of compensation. Conversely, prolonging development adds to the contrast of rendition up to the point where the dense portions of the negative (representing highlights of the subject) commence to merge into unprintable masses. If pushed beyond this stage, development results in flattening highlights through loss of detail.

5. Simple modification of the developer affords an additional means of controlling the effect.

6. Since the methods described greatly affect the rendition obtained from a subject showing an average amount of contrast, it follows that one or another of the procedures can be used as well to obtain a more normal rendering of subjects possessing more or less contrast than usual.

Cinema Section

Edited by

William A. Palmer

Motion Pictures Are A Deception

ONE of the largest industries, employing thousands of people and millions of dollars is based on deception! Motion Pictures are a hoax that fool millions of theatergoers every week. The old saying, "A camera doesn't lie" is an out and out falsehood when applied to a movie camera and should be changed to read "The camera always lies."

Of course, we all know that there are many tricks used in the normal run of photoplay production, as, indeed, the whole of theatrical picture making is a business of make-believe. But more than that, what we don't often realize is that the motion picture apparatus itself is a mechanized conjuror.

There is no such thing as a motion picture. What we call motion pictures are purely an optical illusion caused by a characteristic of our eyes which makes us *think* we see pictures in motion when actually all we are looking at is a series of still pictures of progressive stages of action. Motion pictures are speeded-up magic lantern shows with the pictures presented so rapidly that our eyes are confused and fail to see the interval between pictures, blending them all together so that the brain registers continuous motion.

Edison, Paul and other pioneer inventors of motion picture apparatus merely mechanized and made practical a trick which had been known and used in toys previously. In a sense these pioneers were merely stage magicians utilizing the sluggishness of our eyes to perform feats of optical illusion. So close was the principle of motion pictures to sleight of hand that one stage magician changed his career from fooling the public in person to manufacturing motion picture equipment. He is Alexander Victor, head of the Victor Animatograph Company, one of the few real pioneers who are still very active in the motion picture business.

Although the principle of the illusion of motion pictures was known for years before Edison's invention of practical apparatus, his early experiments with rapid juggling of still pictures did not meet with much success. At that time the only photographic mediums were glass and paper, neither one being very suitable for Edison's ideas. He did make experiments in recording a series of very small pictures in spiral form on glass discs, an idea that was revived again

just a few years ago in an effort to make cheaper home movies. Paper was better than glass but too delicate to be handled at the high speed that the illusion required, for experiments showed that the eyes would blend a series of still pictures when they were presented at a frequency of 30 per second or faster.

When George Eastman, a young photographic goods manufacturer announced that he had invented a flexible celluloid film that could be sensitized, Edison saw at once that he had the ideal medium to make his Kinetoscope, as he later called the optical deceiver. He placed and had filled the first order for Eastman film, about a hundred feet of it, which proved to be quite satisfactory. Other workers were experimenting with machines to make the illusion of recreated motion and they too adopted celluloid film as the proper medium. Edison seemed to be more resourceful than some of his contemporaries and soon had a workable device.

Apparently Edison considered his invention at first to be just about as important as the next side-show entertainment and proceeded to make the viewing machines as peep shows in which the public could drop a coin, turn a crank and be deceived into thinking they saw a picture move. It wasn't until others had shown that the illusion of pictures that moved was better when projected in larger sizes, in a darkened room, that Edison turned to the manufacture of a projection Kinetoscope.

The Flicker to End Flickers

The illusion of moving pictures was far from perfect in the early projection machines. At first the successive still pictures were pulled in position to be viewed and then snatched away in full view of the audience. This was done so quickly that the eyes could not recognize that this was being done, but there was a faint streaking, called a "travel ghost" which marred the performance. The logical solution to the problem was the introduction of a shutter or revolving blade which would cut the light off from the screen while the pictures were changed. This was a big improvement and the illusion was quite good as long as pictures were projected at the rate of 30 per second or faster. Such a rate, however, not only used a good deal of film, but considerable trouble was encountered in building mechanisms that would stand the strain of jerking the film 30 to 40 times each second. When the speed was lowered to a reasonable rate like 16 pictures per second, the present standard speed for silent movies, the flicker was very bad but the mechanisms would at least stay together. So, in the interest of economy of film and less mortality to projection machines, they let the pictures flicker through the early stages of the Nickelodeon era.

Then came the inspiration to some inventive genius, I don't know who first thought of it, that maybe it was only necessary to have 30 or more *flickers* per second instead of thirty or more separate *pictures* per second. His idea was that although the flicker at 16 pictures per second was almost intolerable, perhaps if as many more flickers were added to those 16 per second, the eye would be fooled into thinking the illusion was the same as when 32 pictures per second were projected. In other words, the film would run at 16 pictures per second but each picture would be projected twice, making twice as many flickers as before. The *addition* of the same number of flickers to those already disturbing, was supposed to iron out the flickers so that the eyes would see none! The idea must have seemed fantastic to most people of sober minds, but it was tried and found to work beautifully. The principle was carried even further and shutters con-

structed to put in *two* flickers between the interval when the pictures were changed from one to the next. This worked still better and has been used ever since in most projectors. Your own 16mm or 8mm projector has a shutter that flickers as many or more times while the picture is still as it does when the film is being shifted from picture to picture.

With all this flickering, the public is being fooled plenty. Not only do they think they are seeing moving pictures, but when they pay their 50 cents to see a two-hour show, the screen is completely blank half of the time. Some hoax!

Making a Fakir Fake More

It was very early in the days of picture story production that the various camera tricks, besides its normal trickery, were discovered and used. The ability of the camera to distort motion was perhaps the first embellishment on its list of deceptions. By running the camera slower than the rate of projection, the action could be speeded up for special comedy effects; or run faster than the rate of projection, slow motion studies could be made. These are both familiar to amateur movie makers, for almost all present-day 16mm and 8mm cameras run at at least one speed other than the normal 16 frames per second. Slow motion (usually 64 frames per second) is particularly fine for sport pictures and is a very useful feature of any camera. Eight frames per second (half speed), besides being useful for comedy effects, can get an exposure in light too dim for the widest aperture of the lens to get at normal speed. In theatrical production fast and slow motion are used frequently when the audience is not aware of the fact. For example, in practically all exciting scenes in western pictures with horses dashing around, the cameras are slowed down slightly to make the action on the screen seem more violent. In miniature work, slow motion is used to give a more natural appearance. Particularly when water is filmed in miniature, slow motion makes the quick lapping of tiny waves look like the ponderous roll of big breakers.

Another interesting deception is the ability of the movie camera to reverse motion. This is done frequently by amateurs by simply holding the camera upside down. The film when finished is then reversed end for end and when projected will show the action in reverse. Hollywood has used reverse motion a great deal too for their serious deception as well as their comedy effects. Many of the amazing leaps that Douglas Fairbanks used to make in his old adventure pictures were done by the aid of reverse motion.

It was still very early in the movie game when another form of deception became popular—that made possible by stopping and starting the camera to make things appear and disappear as if by magic. Many early French films, as well as productions in this country, made use of this ruse. Today the trick is still good and many amateurs find that their own films can be pepped up by its use. For example, to work the trick convincingly in making an object disappear from the scene, it is only necessary to have the camera on a tripod and stop it at the point in the scene where the disappearance is to occur. Any person in the scene must "freeze" still and hold the position until the object is removed and the camera started again. With this technique, it is possible to have people or objects appear or vanish instantly or to have someone's clothes changed at the wave of a hand.

The next more elaborate deception which came to professional movies was the use of double exposure. With this trick it was possible to show the same

person taking two parts, talking to himself or even shaking hands with himself. Double exposure, too, made it possible to combine pictures of real people with backgrounds in miniature to gain effects impossible with straight photography.

Of late years an elaboration of the double exposure idea has been used so extensively that in many photoplays 75 per cent of the scenes are faked in some characteristic. The most common ruse of Hollywood now is the projected transparency process in which previously photographed backgrounds are combined with actors in the foreground. This trick results in untold economies, since the characters in the story can be shown in England, Africa, Australia, or Hawaii without their ever having to leave the stages of Hollywood. The transparency process is very simple in principle, being a system of projecting a film of the background from the rear onto a large ground glass screen. The camera photographs the actors as they stand before the screen, apparently at the location of the scenes being projected.

With the transparency process, the most convincing scenes can be made—air battles, auto wrecks, violent storms at sea—and all the while the actors can be in the comparative safety of a studio where the hazardous surroundings are only other moving pictures on the screen behind them.

Of course, the deception of the movies are not all mechanical tricks. Some are photographic or chemical. A cameraman with a flock of fancy filters can do plenty of deceiving. Skies can be made light or dark, clouds made strong or eliminated. Night effects can be made in broad daylight. That color filters properly handled can do wonders, was shown in one instance a while ago when an air picture was being shot. A bombing plane was painted with a color that would appear either light or dark depending upon the filter used. In this way the airplane could be sent up and photographed to represent both the friendly and enemy bomber.

Something similar in the way of economy deceptions is used quite regularly in the production of "quickie" westerns. A group of "extras" and some horses will be hired and by having the "extras" change coats and hats they will be used alternately as outlaws and sheriff's posse. Such is the deceiving ability of motion pictures that a perfectly logical sequence can be made up with the same group of men chasing themselves. The pursued and pursuing are never shown together on the same scene, but by proper cutting from one to the other, the impression is life-like.

Questions and Answers

Question: What causes pictures to go in and out of focus during projection?

Answer: There are a number of reasons why it may become necessary to re-adjust the focus of the projection lens during the running of a film. The most common reason is that different rolls of film spliced together may have a slightly different curl and occupy a slightly different position in the projector gate. This is particularly true when black and white and color films are spliced together and is more noticeable with a very wide aperture projection lens and short projection distances. Of course, if duplicate and original scenes are spliced together, the emulsion will be on opposite sides and will require a re-focussing at each change.



"Modesty"

A. J. Patel, A.R.P.S.

Advanced Medal Print

■ Ordinarily we are disturbed by portraits in which the definition falls off as rapidly as is the case here. When we consider Mr. Patel's objectives, however, there seems to be ample justification for the treatment which he has adopted. The theme of his picture implies soft lighting and delicate modeling. He has achieved that with remarkable skill. The beautiful eyes of his model fairly demand to be played up. Consequently if we wish to concentrate interest in the eyes and at the same time use a soft frontal lighting, we are almost forced to adopt selective focussing to achieve the desired emphasis on the eyes.

Data: $2\frac{1}{4} \times 2\frac{1}{4}$ " Primaflex; 18 cm. Hugo Meyer lens; $1/5$ th sec. at F:5.6, on E. K. Pan., in M. Q., by artificial light; 11 x 14" print on E. K. Bromesco.

Second Award
Advanced Class



"In Mother's Arms"

*Toso Dabac
Jugoslavia*

■ This picture provides a beautiful illustration of the fact that great emphasis is achieved by placing a small patch of bright tone in a large expanse of darker tone. We can also see that the contrast does not have to be very great when the two areas are well differentiated as to size. This print has quite a short scale of tones, but notice how effectively the baby's face is established as the dominant note. It is clear then, that this remarkably successful animal picture has been achieved by taking an unusually appealing expression and pose and giving it clear-cut principalities through careful adjustment of tone values. Further simplification and emphasis is obtained by showing the mother's face in an aspect which subordinates it as much as possible. Suppose, for example, that the larger monkey were looking in a more upward direction so that the eyes showed. We would then have two strong faces to contend with and the picture would lose much of its present effectiveness.

Data: $2\frac{1}{4} \times 2\frac{1}{4}$ " Primarflex; Zeiss Tessar lens; Agfa Isopan developed in Champin 7; $11\frac{3}{4} \times 15$ " print on E. K. Bromesco.

Third Award
Advanced Class



"Judith"

*Dr. Max Thorek, F.R.P.S.
Chicago, Ill.*

■ Dr. Thorek has worked out a most interesting pose and a distinctly unusual composition, in this picture. Ordinarily it would be impossible to place a head so near to the edge of the picture space when the eyes are turned so definitely toward the near edge of the print. In this case the active gesture of the hands overcomes the directional force of the eyes and brings the picture back into balance. Pose and camera angle might have been somewhat better adjusted with respect to the model's left shoulder and upper arm. Notice that the point of the shoulder faces directly toward the camera, that the structure behind is hidden because the shoulder is raised, and that the upper arm is exactly vertical, with the contours forming two almost exactly parallel lines. All of these factors combined tend to make the point of the shoulder especially, and the upper arm to a less extent appear to come too far forward in the picture and give the point of the shoulder a stump-like appearance that is not

pleasing. This condition could probably be overcome by dropping the shoulder slightly and adopting a somewhat higher camera position.

Data: 13×16 " print from paper negative.

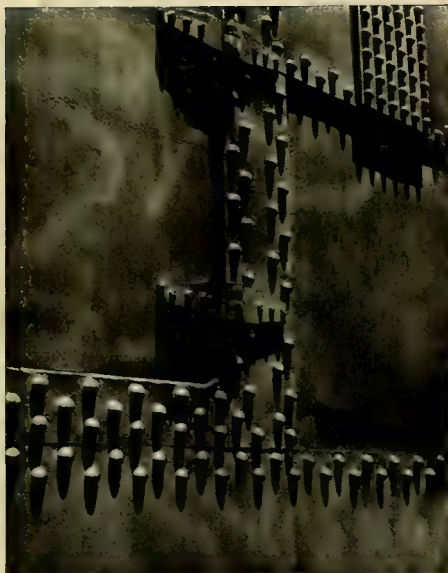
Fourth Award

Advanced Class

■ Photographers, seeing pictures such as this in salons and competitions, shoot a great many pictures of shadow patterns but only a very small percentage of them are at all successful. They usually fail because the design is quite uninteresting or non-existent. "Alright," says the amateur, "what does make an interesting design?" Unfortunately no very helpful answer can be made to that question unless one writes a book or two. Ultimately each photographer must learn the answer for himself by developing a "feeling" for graphic values. This is done mostly by constant practice in picture making—that is the important factor. The process can be helped along by reading good books, and by studying good pictures and comparing them with one's own work. On the technical side it is well to remember that most such pictures require good black shadows to accent the design. This means a minimum exposure based on the highlight area.

Mr. Jaconelli's picture is a good example of fine work in this field. Notice particularly the subtle variation in the shadow pattern as we move from the bottom to the top of the print.

Data: 1/50th sec. at F:11, on Pan film in D-76; 11 x 14" print on Agfa Brovira Kashmir White in D-72.



G. Jaconelli

Chicago, Ill.

Fifth Award

Advanced Class

■ Our first impression of this picture comes almost entirely from the startling dramatic quality of the cloud. We should not fail to notice how this effect is heightened by the dark sky tone, and by the fine way in which the cloud form is related to the picture space. The plane, which is splendidly placed, introduces a meaning which goes beyond the emotional qualities of the cloud itself and at the same time enhances that quality by establishing a comparison of sizes. The usual emotional response to such a scene is the feeling of loneliness which is created by vast spaces and consequently titles commonly express that idea in one form or another. Mr. McGraw has chosen to bring his title very much up-to-date by placing his scene in war time. By the simple device of his title he transforms the threatening, almost frightening cloud, into a haven in time of dire necessity. Provided that the title derives logically from the subject matter, there is a certain advantage in this. It gives the observer a feeling of discovery which increases his interest in the material. It might be well to add that one must be cautious about giving such a dramatic twist to a title, for unless the title really fits it becomes awkward at best and often simply ridiculous.

Data: 2¼ x 2¼" Korelle Reflex; 7/8" Hugo Meyer Tele-Megor; Agfa Finopan in Edwal 20; Composite print (11 x 14") on Defender Velour Black DL, blue toned.



"Escape"

R. F. McGraw
Sierra Madre, Calif.



"The Project"

G. C. Palmquist
San Jose, Calif.

Amateur Medal Print

■ It is obvious that this material offers a most interesting repetition of architectural forms and that the strong lighting is helpful in accenting the shadow pattern. The presence of the telephone pole and the wires is of course regrettable, for they are not properly a part of the picture at all. They, along with the flag pole at the top, should be removed if we are to make the most of this subject matter. Unfortunately such extensive alterations can only be carried out by resort to some such process as the paper negative in which the sharpness and texture of the straight photographic process is lost to some extent. Those qualities are particularly suited to this subject matter and consequently the photographer is faced with a rather unsatisfactory choice. Curiously enough these competitions reproduced a shot of this same building made by another photographer who used the paper negative process to remove the unwanted material. Those who have access to a copy of our July 1934 issue should turn to page 336 for an interesting comparison of the two renderings. Camera Craft cannot supply copies of that issue.

Data: 4 x 5" Graflex; 1/25th sec. at F:16, on Agfa S.S. Pan.; in DK-50; K-2 filter. 11 x 14" print developed on Agfa Brovira Kashmir, in D-72. Prints will be exchanged with other prize winners in these competitions only.

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Dr. Max Thorek and M. Jaconelli, for the Fort Dearborn Camera Club; Toso Dabac, for the Fotoklub Zagreb; E. F. McGraw, for the Pack Rats; and A. J. Patel, for the Photographic Society of India.

The following won prizes for their clubs in the Amateur Class: C. Stanton Loeber, for the California Camera Club; Grant Duggins and Glen Fishback, for the Sierra Camera Club.

The following prize winners have no club affiliations: G. C. Palmquist and Mildred L. Liatt.

Contributing Clubs

Aluminum Camera Club (New Kensington, Pa.)	Fotoklub Zagreb (Yugoslavia)
California Camera Club (San Francisco)	Lahore Camera Club (India)
The Camera Clique (St. Louis, Mo.)	Muskogee Camera Club (Okla.)
Cleveland Photographic Society (Ohio)	Nassau County Camera Club (New York)
E.P.I.C. Group of San Francisco	Pack Rats (Pasadena, Calif.)
Florida Camera Club (Tampa, Fla.)	Photographic Society of India (Bombay)
Fort Dearborn Camera Club	Photographic Society of San Francisco
Fotoklub Ljubljana (Yugoslavia)	Sierra Camera Club (Sacramento, Calif.)

STANDING OF CLUBS

Large Clubs Advanced Class

Fotoklub Zagreb	33
Fort Dearborn Camera Club.....	32
Fotoklub Ljubljana	18
Photographic Society of India.....	5
Photographic Society of San Francisco..	4
Miniature Camera Club of New York.....	1

Small Clubs Advanced Class

The Pack Rats	32
Denver Lensmen	14
Yellow Springs Camera Club.....	5
The Camera Clique	2

Large Clubs Amateur Class

Cleveland Photographic Society.....	16
Sierra Camera Club.....	13
California Camera Club.....	6
Photographic Society of San Francisco..	6
Camera Club of Richmond.....	5
Miniature Camera Club of Oakland.....	4
Fotoklub Zagreb	3
Photographic Society of India.....	2

Small Clubs Amateur Class

Taft Camera Club.....	14
Calgary Photographic Society.....	13
Lancaster Camera Club.....	5
Hocking Valley Camera Club.....	4
Riverside Pictorialists	4
E.P.I.C. Group	3
San Jose Camera Club.....	2
Kamera Kranks	1
Norfolk Photographic Club.....	1

SUMMARY OF COMPETITION RULES

1. Open to all, amateur or professional, club member or non-club member.
2. Closing date 1st of each month.
3. Place technical data, club membership if any, selling price, and whether or not you wish to exchange on back of print.
4. No entry fees or blanks required.
5. Stamps must be enclosed for return of prints.
6. Full explanation will be sent free on request or may be seen on Page 42 of January 1938 issue.

"What Is Your Photographic I.Q.?"

1. Hydroquinone is made from which one of the following substances:

☐ Quinine
☐ Benzene
☐ Sulphuric acid
☐ Gasoline

2. The perspective of a picture is affected by the:

☐ Focal length of the lens
☐ Distance between the lens and subject
☐ Aperture
☐ Negative size

3. If a picture were described to you as a genre study which one of the following subjects might it be:

☐ A row of attractive buildings
☐ Flowers artistically arranged in a vase
☐ A woman's profile
☐ A boy at a creek enjoying his day's fishing

4. Which of the following pictorialists is credited with saying, "The subject is nothing, the light is everything"?

☐ Leonard Misonne
☐ Alexander Keighley
☐ William Mortensen
☐ H. Berssenbrugge

5. The Eastman Kodak Company recently announced three new films. The chief characteristic of one of these is a remarkable fineness of grain. Pick it out of the following list:

☐ Panatomic
☐ Kodak Plus-X
☐ Kodak Super XX
☐ Panatomic-X

6. If in a particular type of synchro-sunlight photograph an exposure of 1/50

second at f.8 were required, what adjustment would you make to compensate for the use of a yellow filter:

☐ Adjust the lens stop
☐ Increase the shutter exposure
☐ Filter should not be used
☐ Wait for brighter sunlight

7. In dealing with the psychology of color which color would you use to suggest relaxation and relief:

☐ Blue
☐ Red
☐ Green
☐ Black

8. Development charts will indicate longer development time for film packs of the same type and brand. The reason for this is:

☐ Film packs require less agitation
☐ The celluloid base is thicker
☐ Packs have an extra coating to prevent scratching
☐ Film packs are "loaded with more silver"

9. Which two of the printing processes listed below involve the use of a bromide or chloro-bromide print at one stage of the operations:

☐ Bromoil Transfer
☐ Fresson
☐ Carbro
☐ Carbon

10. All of the processes listed below are based upon photographic procedures. Check the one which is not used in commercial printing with a press:

☐ Photo-Lithography
☐ Collotype
☐ Kallotype
☐ Photogravure

Answers on page 489.

Notes and Comments

P. S. A. Convention

The annual convention of the Photographic Society of America will be held on Oct. 14, 15, and 16th in Rochester, N.Y. Rochester, as everyone knows is the photographic capital of this country, and consequently it seems certain that opportunity is offered for an unusually interesting meet-

ing. Program arrangements are being made by the Rochester Technical Section of the Society. Details are not yet available but of course visits to the principal manufacturing plants will be a feature. Headquarters will be at the Sagamore Hotel and special rates have been arranged. For further information write to Thomas E. Miller, 12 Granger Place, Rochester, N.Y.

Stanley R. Jordan Classes

Mr. Stanley R. Jordan announces four new classes in photography. Mr. Jordan's own instructions will be supplemented by special lectures by outstanding individuals in the respective fields. Courses are as follows:

Fundamentals of Photography. Beginning Monday, Sept. 26th, 7-9 p.m., 4 weeks, \$6.00.

Composition and Life Class. Beginning Tuesday, Sept. 27th, 7-9 p.m., 4 weeks \$8.00.

Portrait Photography and Lighting. Beginning Wed., Sept. 28, 7-9 p.m., 4 weeks, \$8.00.

Commercial and Illustrative Photography. Beginning Thurs., Sept. 29, 7-9 p.m., 4 weeks, \$10.00.

For further information address Stanley R. Jordan, 270 Sutter St., San Francisco. Phone EXbrook 2308.

Let's Swap

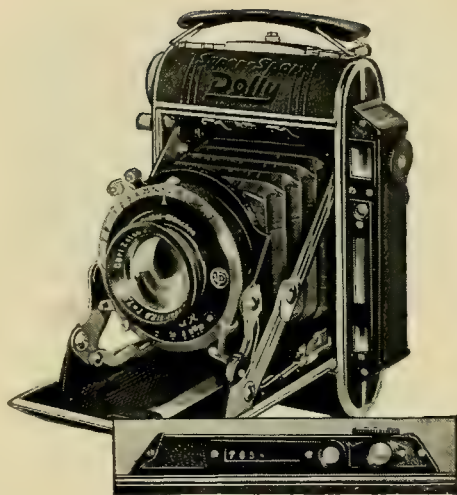
Haber & Fink, of 16 Warren Street, New York, in a thirty-day check-up of sales report that exchanges in photographic equipment have become as popular as trade-ins in the automobile industry.

The records show that nearly 70 per cent of the business transacted during the month of June was consummated with a trade-in of one kind or another.

Haber & Fink who are authorized franchised dealers of every standard make of photographic equipment including cameras, such as Kodak, Leica, Contax, Retina, Robot, Rolleiflex, Bell & Howell, Keystone, etc., are substantially responsible for the success of this new avenue in photography . . . "trade-yours-in for the one you want."

Newest S. S. Dolly Has a Built-In Exposure Meter as Well as a Built-In Range Finder

Burleigh Brooks, Inc., of 127 West 42nd Street, New York City, announces a new model Super Sport Dolly which, in addition to a most dependable built-in range finder of the split-image type, will have a visual type of built-in exposure meter. It is available with Schneider Xenar and Zeiss Tessar f/2.8 lenses in regular Compur delayed-action shutter with speeds from one second to 1/250, as well as in Compur Rapid shutters, with speeds up to 1/400. Limited quantities of this new model are



S. S. Dolly

now ready for distribution and will sell for exactly the same price as the regular S. S. Dolly, with built-in range finder, which list as follows:

With Schneider Xenar f2.8 in Regular Compur delayed-action shutter, speeds up to 1/250, \$65.00.

With Schneider Xenar f2.8 in Compur Rapid delayed-action shutter, speeds up to 1/400, \$70.00.

With Zeiss Tessar f/2.8 in Regular Compur delayed-action shutter, speeds up to 1/250, \$77.50.

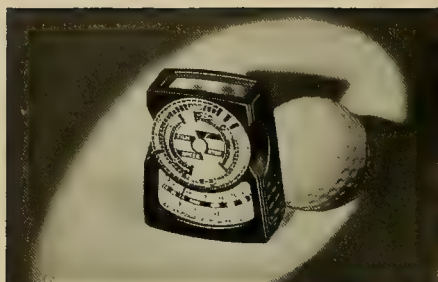
With Zeiss Tessar f/2.8 in Compur Rapid delayed-action shutter, speeds up to 1/400, \$82.50.

These cameras, as you may know, make either sixteen pictures $1\frac{5}{8} \times 2\frac{1}{4}$ ", or twelve pictures in the popular $2\frac{1}{4} \times 2\frac{1}{4}$ " size, using regular No. 120 film.

DeJur-Amsco Exposure Meter

The DeJur-Amsco Company, manufacturers of fine radio and electrical precision instruments for more than fifteen years, have adapted their tradition of exact manufacture to the camera field with a new photo-electric exposure meter. This new instrument, known as the DeJur-Amsco Exposure Meter was carefully designed to incorporate the most recent developments in the industry, and at the same time it embodies many new features of its own.

Small and compact, the Automatic Light Rule slips easily into the vest pocket or



DeJur-Amsco Meter

handbag. It is comfortably held and manipulated with one hand. In use, the meter is held at waist level, with the recessed cell opening pointing toward the subject. The light scale is then in the proper reading position—that is—with the figures indicating the intensity of light facing the photographer. In this position, the thumb may easily turn the large knurled ring of the computer dial.

The photographer now merely turns the dial until the indicated reading of the meter is next to the figure showing the emulsion speed of the film he is using. Now all the proper combinations of shutter speeds and diaphragm openings appear on the right half of the computer, and the one best suited to the character of the shot is selected.

Precise, large scale manufacture allows this meter to be sold at \$9.75. See it at your dealer or write to DeJur-Amsco Corporation, Shelton, Conn., for further information.

Home Study Course in Journalistic Photography

The Universal Photographers, Inc., realizing the tremendous market for photographs, built up by the increasing number of picture magazines and the growing use of photographs generally, have prepared a home-study course in journalistic photography.

Many photographers have found a sound market for their work, and, as the demand for pictures exceeds the supply, opportunity awaits those who know how to proceed. The Universal Photographer's course will supply the information you need and complete details may be had on request from the Universal Photographers, Inc., 10 West 33rd St., New York City.

Kodachrome in Cut Film Sizes

What has long been rumored as eminent now becomes official. Kodachrome in cut film sizes ranging from $2\frac{1}{4} \times 3\frac{3}{4}$ " to 8×10 " will be generally available about October 1st. It will be packaged 6 films to a box. Processing, of course, will be done by the company.

Jamieson Offers New Chemical Specialty

The Jamieson Products Co., 219 Avenue F., Redondo Beach, Calif., is producing a new type of direct sulphide toner for paper prints, called Blending Brown. This product has met with instant success in the hands of the colorist who appreciates the value of a locally applied toner over the flesh areas of a portrait. When applied to a Bromide-Chloride or a warm tone print the foundation tone so obtained is so near actual flesh color that only a very small amount of additional color is necessary.

Blending Brown is more than "just a sulphide toner." It is a synthetic organic product and gives a result heretofore possible only by a series of operations and the use of different toners. The image may be described as of normal density after toning and the color is slightly more reddish than the yellow brown so often encountered in sulphide toning.

Blending Brown is best applied to a dry print and when toning is completed, if the print is washed in a flood of rapidly running water (held under a faucet) for two minutes before the usual washing, no masking is necessary to prevent the toner from "bleeding" or running into adjacent areas.

When lighter shades of brown are wanted, as for blond hair, Jamieson recommends that the area be slightly bleached with Blendoil as described in the handbook of instructions for Etchadine product, Chapter two. When Blending Brown is applied over the partially bleached area of this dry print, it will act as a toner for the unbleached silver and as a redeveloper for the bleached image, thus giving a lighter variation of the color image.

Prints which are etched with Etchadine "the micro-solvent for silver" may be successfully toned with Blending Brown. Thus color control of the silver is added to density control.

Additional products and methods of pigmenting (toning) the silver image, have been worked out and applied in the Jamieson

on Products Co. laboratory and are held in readiness for the user who wishes to go deeper into the new art of silver pigmentation but if the colorist's time or inclination never carry him beyond the use of Blending Brown it will prove to be a complete joy within itself for portrait work specially.

The action of Blending Brown is rapid. The odor is slight and rather pleasant. A few drops will do all the work needed on an 8 by 10 print. For general toning the use of glycerine with water added up to about 5 per cent is recommended as a thinner, in which form the product is applied to the dry print with a tuft of cotton.

For small occasional use the 45 cent handy dropper bottle is sufficient. Steady users will want the six times size at \$1.25. The product is now going onto dealers' shelves. Try your dealer first.

Pavelle Laboratories to Vaporate-Process All Films They Fine-Grain Develop

Pavelle Laboratories, Inc., one of the most prominent fine grain processing laboratories in the country, announces an entirely new, unique and exclusive service. Every film developed in these laboratories with their famous fine grain technique, will also be treated with the Peerless-Pavelle Vaporate Film Treatment.

The Vaporate process has been used for years by the Hollywood studios for the protection of all film that passes through the big cameras. In addition, thousands of amateurs have been sending in their motion picture films for the Vaporate treatment. Now Pavelle Laboratories offer this treatment to the still camera amateur, as a routine treatment with every roll of film processed with their fine grain developer. This new service is exclusive with them.

Pavelle Laboratories' ultra-fine grain development, including the Peerless-Pavelle Vaporate Film Treatment, is 35 cents per roll.

For details of their complete photographic service, write to Pavelle Laboratories, Inc., 16 East 42nd Street, New York City.

Leica Exhibit On West Coast

The Fourth International Leica Exhibit will be on display in San Francisco Sept. 15th to 22nd, inclusive, at the Chevrolet

Building (Ernest Ingold, Inc.), 999 Van Ness Avenue, San Francisco.

In connection with the exhibit there will be an illustrated lecture by Mr. Anton Baumann, European photographer, showing the actual technique of making "Giant" enlargements from Leica negatives and the projection of 200 color pictures, taken by Mr. Baumann here and abroad, at the Main Auditorium of California Hall, Polk and Turk streets on Sept. 20th at 8 p.m.

Other exhibit and lectures dates are as follows:

Oakland, Calif.—Baumann lecture, Jenny Lind Hall, 2229 Telegraph Ave., Sept. 22nd at 8 p.m.

Hollywood, Calif.—Leica Exhibit, C.P.S. Studio, Sept. 28th to Oct. 4th, Baumann lecture, Columbia Square Theater (Sunset Blvd.), Oct. 1st at 8 p.m.

Los Angeles, Calif.—Baumann lecture, L. A. Public Library, 5th and Grand Sts., Oct. 5th at 7:30 p.m.

San Diego, Calif.—Leica Exhibit, Photographic Arts Society Bldg., Balboa Park, Oct. 10th to 12th. Baumann lecture, Auditorium of the House of Hospitality, Balboa Park, Oct. 11th at 8 p.m.

Tucson, Arizona—Lecture, University of Arizona Agriculture Auditorium, Oct. 19th at 8:30 p.m.

Do not miss this opportunity to see what the Leica can do.

Victor Midget Clamp-On Lights

A new shaped, small size, polished aluminum reflector for No. 1 (25c) Photoflood lamps has been engineered by James H. Smith & Sons of Griffith, Indiana. It is a feature of the new Victor Midget clamp-on light which sells for \$1.50. It is claimed to be twice as effective as other minimum size lamps. The reflector is 5 $\frac{3}{4}$ inches in diameter at the rim and 5 inches deep. It is attached to a new, double ball-and-socket swiveling mount by substantial metal straps and fitted with a strong spring clamp with rubber covered grips for quick attaching to any convenient object. A new Victor folder describing this and other Victor photographic specialties is free. Write the manufacturer, James H. Smith & Sons Corporation, Griffith, Indiana.

Western Camera Works

Bay region photographers now have at

their disposal the services of a new store under the above name, located at 1436 Webster St., Oakland, Calif., with Mr. Duke Moore in charge. In addition to stocking a complete line of cameras and supplies, this new firm features a modern repair shop, staffed with skilled technicians. All of their secondhand equipment is carefully reconditioned in their own shops. They are fully equipped to make custom-built cameras or accessories to your order. This is the place to have your own ideas in gadgets translated into reality.

Wonderlite

Wonderlite is not just another electric lamp. It has certain distinguishing qualities which make it peculiarly fine for photographic use. So far as this quality can be expressed in words we would say that the lamps give a light which is soft but which at the same time retains crispness in the highlights. That, of course, is just the combination we want to get beautifully luminous prints. A postcard addressed to the Wonderlite Co., West Orange, N. J., will bring full information.

Albert Specialty Company Appoints Western Representative

Albert Specialty Company announces that Mr. Jack T. Saake, 917 Shreve Bldg., San Francisco, Calif. will henceforth represent that company on the Pacific Coast. This will make it much more convenient for dealers to handle the many excellent items offered by the company.

Edwal 111

The Edwal Laboratories have established an enviable reputation for high grade products. Their new Edwal 111 print developer fully sustains that reputation and will be a great help to the amateur in obtaining fine prints. Don't overlook the fact that the Edwal ad in this issue is worth 25 cents if used to purchase a quart of the new developer.

New Willoughby Offerings

Willoughby's, 110 West 32nd St., New York, N.Y., offer two new products of real interest.

Besbee Universal Title Maker, is really a most versatile instrument. It can be purchased either with or without accompanying lights, and it can be used to make almost every conceivable type of title. Unusual features are an Opal Screen which is

used to make titles with moving backgrounds taken from existing movie film by means of rear projection. The camera is mounted on a movable base so it is possible to make "zoom" or "pop-up" titles. Space does not permit us to mention all the features but a postcard to Willoughby's will bring fully illustrated information.

Willo Senior Print Tongs. These would appear to be the ideal print tongs, for they are made of stainless steel, a material which is absolutely impervious to all photographic solutions and which is very easy to keep clean. They retail at the remarkably low price of 50 cents each.

The New Devin

The new Devin 6.5 x 9cm. One Exposure Tricolor Camera is now available. It is designed in this small size especially for amateur use or for professional use on location, etc. This camera is of the two-mirror type, offering the maximum in sharp registration and accurate color separation. It retails at \$365.00 including a fast high grade lens. The resulting separation negatives can be used with any color printing process. The Devin Colorgraph Co., 309 East 43rd St., New York, N.Y. will send free upon request a booklet containing much vital information on color photography and fully describing this camera. They also have a most instructive pamphlet giving the finer points on the making of Tricolor Carbro prints with Colorgraph Carbon tissue. Every color photograph should have these.

4 x 5 Crown View Camera

To satisfy a long-felt desire on the part of camera hobbyists for a small and compact view camera that uses economical 4 x 5 film, the Folmer Graflex Corporation has just announced its 4 x 5 Crown View Camera. Of added interest is the fact that this newest addition to the Graflex line uses Graphic type holders for its negative carrying medium.

Many features give the 4 x 5 Crown View Camera great usefulness and versatility. It has a bellows extension of 19 inches making it a perfect camera for copying work and extreme close-ups. Its 4" x 4" lensboard accommodates a wide variety of lenses and allows owners of Graflex and Speed Graphic cameras to use their present lenses. The front of the camera raises an

lowers and shifts laterally, specially adapting it to architectural and interior photography. And its pivoted back swings horizontally and tilts twelve degrees from center, making correction or willful creation of distortion simple and easy.

The minimum focus of the camera is 3-7/16 inches. However, Graflex recommends the use of lenses with a focal length of not less than four inches.

The new 4x5 Crown View Camera may be had in either of two finishes: Satin Chrome or Bronze Sandblast. It comes complete with Graphic holder and case. It is now in stock at most representative camera dealers.

New Stainless Steel Thermometer Is Accurate and Easy to Read

To meet today's increasingly critical needs for accurate temperature measurement of photographic solutions, the Weston Electrical Instrument Corporation has now developed an entirely new type of thermometer, made to the same scientific standards as the Weston Exposure Meter and other Weston instruments.

The new thermometer has a dial-and-pointer scale easily read with "on the dot" accuracy even under dim darkroom safelights. The entire casing is of stainless steel construction, with an all-metal temperature element sealed within a rugged stainless steel stem. Thus, it is practically unbreakable in service and corrosion-proof to photographic chemicals.

Location of the dial in a horizontal position at the top of the stem, well out of the solutions being tested, make the unit particularly convenient for use in developing tanks. Dial markings from 0 to 180°F. are spaced for easy readability on a metal scale plate, and cannot be obscured or obliterated by the solutions, as is the case with ordinary stem gradations.

The unit is said to be the first dial-type thermometer with an all-metal temperature element sufficiently accurate for scientific use. The pointer is actuated by means of an internally balanced double coil of thermostatic bimetal sealed in the lower 1½ inches of the 8-inch stem. When the stem is immersed in a solution to a depth of 2 inches, the dial reads temperature values accurately without the necessity for stem correction. Accuracy of the unit is guar-

anteed to within one degree over the entire scale.

Bausch & Lomb Film Slide Viewer

An attractive film slide viewer, finished in either brown, green, or black, has just been completed by the Bausch & Lomb Optical Co. for the users of miniature cameras, enabling the worker to study his negatives for enlarging possibilities or to exhibit them to the best advantage.

The unit is sturdily constructed with an excellent optical and illuminating system. The ground glass diffusing screen is approximately two inches square, permitting the showing of all popular miniature sizes, in black and white, or colored positives. The three-inch precision lens produces a crisp enlarged image of the film and creates an illusion of depth.

The Film Slide Viewer operates on 110-volt A.C. or D.C. and uses a standard 15-watt Mazda bulb. The housing is well ventilated and the bulb small to avoid harming slides or film.

Answers to "What Is Your Photographic I. Q.?"

1. Hydroquinone is made from benzene, which is first converted into aniline and then oxidized so as to get hydroquinone.
2. The distance between the lens and subject determines the perspective effect. For the same distance of subject, it is immaterial whether the focal length happens to be short or long, but less of the scene will be included with the longer focal length.
3. It would be the boy fishing. Genre studies are called story-telling pictures; they deal with realistic subjects or scenes from everyday life.
4. Leonard Misonne. After you have seen his pictures you will appreciate his statement.
5. Panatomic-X.
6. The proper thing to do is to open the lens stop. The flash light should be judged by the distance from the flash bulb to the subject to be illuminated. The intensity of duration of the flash is constant and no advantage is gained by increasing the shutter speed; only a larger aperture will permit greater utilization of the flash light. Of course you might wait for more sun but this is hardly practical.
7. Green is known as a restful color. Being the principal color of all vegetation, it suggests those qualities that are experienced in the open country, namely relaxation and relief. Blue is considered cool; red denotes warmth; black is forbidding and oppressive.
8. Packs have an extra coating to prevent scratching; hence, it takes a longer time for the developer to penetrate the emulsion.
9. Bromoil Transfer and Carbro. In Bromoil Transfer the bleached and swollen bromide print is inked up and used as a matrix to transfer the ink image to the final support. In Carbro the bromide print is squeezed into contact with sensitized carbon tissue. During this contact the bromide print is bleached and its image is transferred to the carbon pigment.
10. Kallitype. In this, as in iron printing processes ferric salts are reduced by light to ferrous, but the method, which was invented by W. W. Nicol, is distinctive in that the ferrous salts are employed to reduce a soluble silver salt to the metallic state, with the result that a silver image is formed. The second reduction is effected by means of a developer, variations in which will produce several different tones.

CLASSIFIED ADVERTISEMENTS

Rate: 6 cents a word; minimum \$1.50 each insertion, prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Graflex, 4x5 Telle, 7-in. Carl Zeiss Tessar 4.5, plate magazine, Roll holder, 3 plate holders and pack adapter, \$82.50. Graflex, Auto Jr. 2 1/4x3 1/4, 4.5 Zeiss Tessar, 1 P. H., P. A. and case, \$29.00. 5x7 Premo No. 8, 7-in. Zeiss Tessar 6.3 in Compound shutter, 3 P. H., P. A. and case, \$29.00. 7-inch Zeiss Tessar 4.5 in barrel, \$25.00. 5 inch Goerz Dagor in barrel, \$15.00. 5 inch Cooke 6.3 in Compound, \$16.00. 3/4 inch Carl Zeiss 4.5 in Compur, \$24.00. 6025 Wanda Ave., St. Louis, Mo.

◆For Contax: 180 mm. Tele-Tessar K/1:6.3 with Finder, excellent condition, \$90.00. Also a brand new Plate back adapter for Contax I including focusing screen and 4 plate holders, \$20.00. Max Keller, 43A Dana Street, Cambridge, Mass.

◆Wanted: 6 1/2 inch Enlarging Lens F4.5. Prefer B & L Velostigmat or Eastman. Must be reasonable. For sale: Univex F3.5, new, \$10.00. Wm. Nakahara, 625 Grant Ave., San Francisco, Calif.

◆5x7 Agfa Universal View Camera with 10" Bausch & Lomb F/5 Portrait lens, No. 6 Packard shutter, case. Beautiful condition, \$100 value, sacrifice \$65. Frank J. Gill Studio, Oil City, Pa.

◆Korelle Reflex 2 1/4x2 1/4, Victor 3.5 lens; special model—speeds 1/500 to 2 seconds; built-in self-timer. Rebuilt; also takes miniature Kodachrome. \$80.00. Write H. A., care Camera Craft, 425 Bush Street, San Francisco, Calif.

◆16 mm. Cine outfit from taking to developing, cheap for cash in a whole or consider equity in 4-d. Sedan. P. Wallogha, 971 McAllister Street, San Francisco, Calif.

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with built-in automatic filter

Zeiss Tessar F2.8 and Telephoto Xenar F5.5 lenses. Safety catch ring; leather shoulder case; lens hood; 3 spool chambers (90 picture capacity); spool chamber protector case; cable release; and Robot ball and socket tripod head.

Guaranteed brand new, never used.

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We loan money on all kinds of cameras, specializing in miniatures—graflex, graphic, movie cameras, lenses, accessories — also microscopes

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◆For Honolulu photo finishing plant: Experienced, sober man to print rolls on Pako printer using Agfa Ansco paper. One way transportation paid from West Coast. Address F. W. C., care Camera Craft, 425 Bush Street, San Francisco, Calif.

FOR SALE

No. 1 semi-centennial studio camera stand and No. 7 century camera with Bausch-Lomb 16" sigmar portrait lens in Wollensak shutter, camera and stand in good condition, lens nearly new \$150.00. Will consider Series B-R B 4x5 Graflex in trade, must be in a new condition. Also two model 27 and two model 30 CLERGY Shur-Fire flash guns complete with auxiliary flash pans, \$4.50 each.

CLERGY MACHINE CO., DES MOINES, IOWA

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View Photographers Wanted

NATIONAL VIEW CO., Box 85-C, Winona, Minn.

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DOLLY 1/2 V. P. F2, Compur 1/500 sec.....	38.50
PUPILLE 1/2 V. P. F2, Compur 1/300. case.....	40.00
CONTEX I, F3.5, case	69.50

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RIFLES, SHOTGUNS, TARGET PISTOLS and other firearms accepted in trade at liberal allowances on Leicas, Contaxes, Graflexes, Weston meters, and all photographic equipment, motion picture and "still." Authorized dealers for every leading manufacturer, including Zeiss, Leitz, Eastman, Bell & Howell, etc. Write for catalog.

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Miniature Camera Shop

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CAMERA CRAFT



Torkel Korling

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Flattening the Print

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Showmanship

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THIS book deals with a long neglected phase of craftsmanship—the things that happen to the print in preparing it to meet the public. This phase is covered here, from wash-water to salon wall. . . .

For the first time in his books, Mr. Mortensen describes his amazing method for print control, the **Abrasion-Tone Process**. At last, the photographer is enabled to alter or eliminate blemishes without resorting to negative re-touching, thus opening to the **miniature worker** a long desired means of control. . . .

Just as important in photography as craftsmanship is **showmanship**—grooming your picture for public presentation. No matter how good a photographer you are, the public will never know about it unless you understand presentation values. Here all the small but important details of showmanship are carefully analysed.

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425 BUSH STREET

SAN FRANCISCO, CALIF.

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San Francisco, California



"Charity"

Dr. Mario Righetti

21st Los Angeles International Salon

Torkel Korling

Al and DeVera Bernsohn

HE doesn't work in a studio; he works in a laboratory and on location. He spends almost as much time building and rebuilding equipment as he does in photography—and he spends a great deal of time in photography! He's recognized as tops as a photographer of children. National publications have been unreserved in their praise of him. Highly respected organizations have given him their most coveted awards. Yet, he has never voluntarily submitted his work to salons and he refuses to talk about himself. That's Torkel Korling.

The visitor to his laboratory is at first struck by the business-like appearance of the place. There is no name on the door. Drying prints hang from lines strung everywhere except in the darkroom. Work benches, equipment lockers and a couple of chairs are the only furniture in the place.

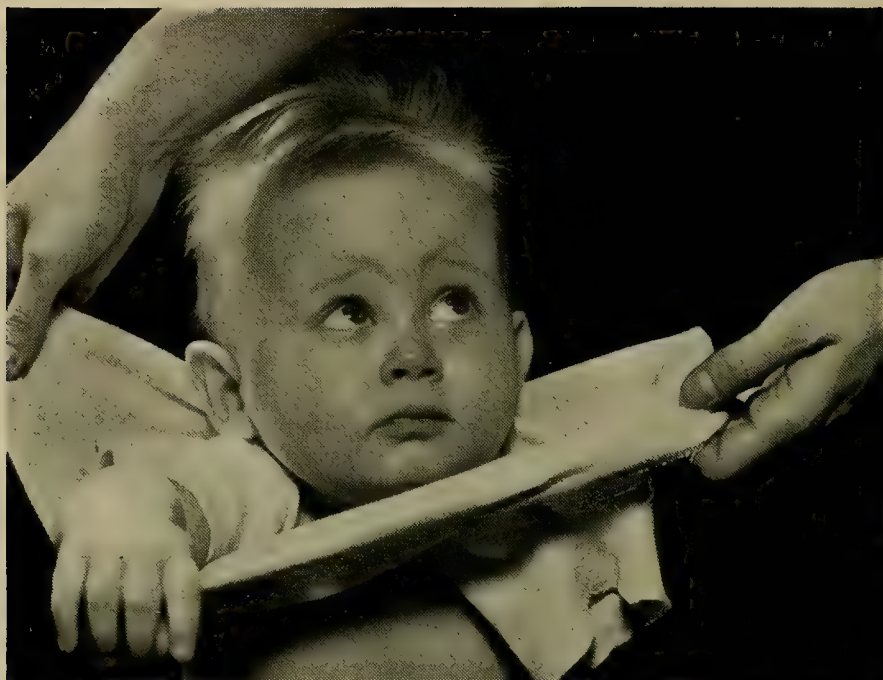
Korling himself is a tall, strongly-built Swede, quiet, reserved, pleasant. He's in his early thirties. His interests are centered in his work, his equipment, and most of all in Mrs. Korling and the little Korlings. Little Peter is nearly two and daughter Tyra is four years old. The children serve as photographic subjects whenever their father is testing new film or cameras.

He loves to photograph children. Why? "They're the most charming and natural of subjects," he explains. "Photographs of children are ageless in their appeal. They can be used as most effective human interest advertising for any product. And most of all, it's sport. You have to be constantly alert to get a good shot and you never know what your subject will do next."

Models? He finds them everywhere. In the homes of friends and customers, on the streets, in any place where children are assembled. He never resorts to files of professional models because these children are too frequently spoiled by having been given fixed ideas and unnatural responses to cameras. They are more difficult to catch unawares in attractive, natural poses.

"Before the age of six months, the features and expressions are not sufficiently strongly formed for most purposes. From the age of six months to three years I find children to be most ideally suited to my particular type of work. After three the children may be controlled and instructed to participate in some particular activity."

Torkel Korling dislikes photographing children in some previously selected pose. When you do this, it ceases to be sport, he feels. "Often,



Torkel Korling

in the course of their daily play, children will adopt poses that the experienced photographer will recognize as 'naturals' for good pictures. If he's alert, he'll catch them on film at once; if not, he may ask the children to repeat their action, without much danger of their losing their natural expressions. But if he fails to get the shot more than once, his chances of catching a particular pose in its most appealing light are gone forever."

He advises the photographer who shoots a roll of film for a single good shot to employ any other type of subject, but to stay away from child photography. Children must be photographed "on the fly." The slowpoke should stick to table-tops.

Fast, flexible equipment is as important as quick work on the part of the photographer. Flash bulbs are preferable to floods, Korling holds, because photofloods restrict the field of activity, and if a child cares to wander beyond that field to adopt a cute pose, the photographer is left without a chance of getting the shot. Children are at their best when they're without restriction of space or activity.

The child-portraiture specialist uses a Graflex camera, equipped with photoflash synchronizer. With F22 not an unusual aperture with this equipment, the result is extended depth of field.

Two No. 10 General Electric photoflash bulbs, in reflectors, are his favorite lighting. One flash alone usually gives a shot a flat appearance. More than two are awkward to shift rapidly and take away from the sim-



Courtesy "Quaker Oats"

Torkel Korling



Torkel Korling

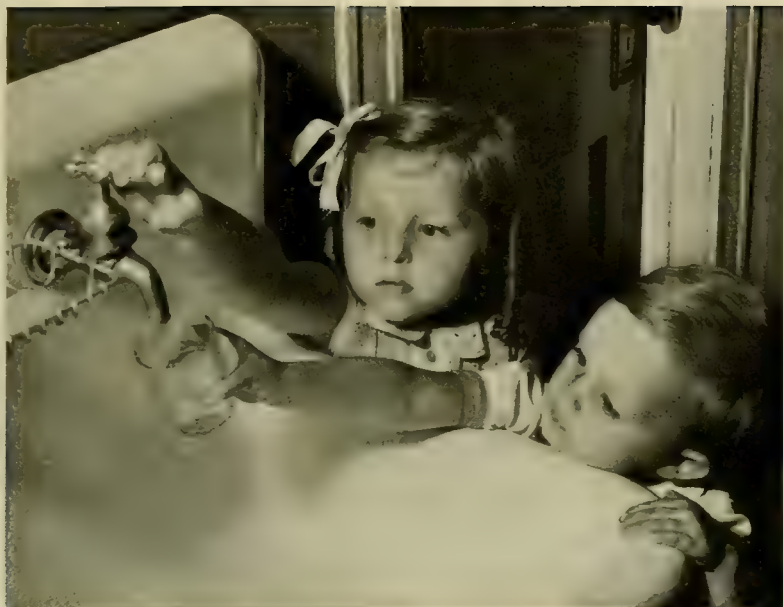
plicity he seeks in the shadow tones. One flash is attached to the camera by a flexible arm, the other to a stand placed at one side of the subject, about six feet away. It is closer for close-ups and farther in cases of full-length shots. In case the subject happens to be wrongly posed in relation to the second light, Korling has it so rigged up that he can switch it off at will.

"Of course I use it whenever possible," he says, "because the second light brings brilliance to what otherwise might be a flat picture. It also highlights the subject to strengthen outlines and accentuate certain features, such as a charming baby profile. But I'd consider myself foolish to pass up an appealing shot because of a mere lighting technicality."

To fill in shadows, Torkel diffuses the light with a cover, for the 10-inch light reflector attached to his camera, made of three thicknesses of tracing paper. Since the details of the child's face are far from as rugged as those of adults, it is necessary that the camera be in very sharp focus and every feature brought out. This is another reason for the desirability of two lights and the impossibility of getting maximum results with soft-focus work.

Few of the children express great alarm at the flash bulbs going off. In fact the greatest danger confronting the photographer on this account is the well-meaning parent who scares the child by warning, "This is going to explode, but don't be afraid. It won't hurt you." Of the thousands of children Korling has photographed, only one has ever been excessively frightened.

Because of the speed necessary to catch a fleeting expression, flood-lights are rarely used to focus the camera for the flash shots, the photographer relying on his familiarity with his camera for accurate work. The



Torkel Korling



Torkel Korling



Torkel Korling

camera, as well as the lighting, must be operated without waste of time. "Instead of constantly fumbling with adjustments, I move back and forth with the child and keep him in constant focus with the reflex of the camera," says Torkel.

Do children shy at the equipment? "Not if the photographer introduces them to it properly. Let them get used to the presence of the camera before you use it. Their attention will wander away in time from the photographer and his equipment. He'll be accepted into the room without fear or question."

Korling feels that the old school of baby photographers, who shot now-dignified persons, who at the age of ten months were lying, bottoms up, in complete dishabille, is gone. Some day he hopes to parody this particular pose.

He likes best to work with devilish little brats at their most satanic. The more boisterous and impish the child, the better Torkel likes him, contrary to most non-photographers' (and many photographers') views. "A baby that's always up to mischief may be hard on the furniture," he admits, "but what a find he is for the photographer looking for interesting expressions and poses!"

The attention of the child is rarely sought by Korling himself. Usually he drafts the parent as an assistant in getting the child to pose. The parent knows what Korling wants. (Someone called on the phone, Torkel answered. "I'm sorry, madam, I do *not* take formal pictures of children.") and serves as the third person of the trio, taking the child's attention away from the camera. Mama or papa is usually very cooperative because he or she wants as attractive a photo of Junior as possible. Then there's the added advantage of the parent being someone to whom the subject is accustomed. This creation of familiar interest gives the child more freedom of expression.



Torkel Korling

The poses Torkel looks for are as varied as the personalities of the children. Sometimes, however, he has occasion to photograph the child in a given attitude. If the attitude is crying, the photographer waits until the baby is tired. "They'll cry naturally," he says. "All the photographer needs to do is to be patient. Never resort to artificial means; bedtime will come around soon enough, and then they'll cry. Meanwhile you can get a lot of

swell shots for stock. I have a deep respect for children and their growing, quick little minds that so rapidly accept knowledge. To force tears in any unnatural way, such as by striking the child, is brutal and psychologically dangerous."

One of the most difficult of poses for the photographer to catch is of a baby sleeping. When they are very young, they sleep lightly, on their stomachs. They awaken if you turn them over. The photographer must wait until they assume a satisfactory position as they toss in their sleep. It takes patience, but it's worth it, according to Korling.

A few of Korling's suggested "don'ts" for amateurs:

Don't form ideas of how to photograph the child in advance unless absolutely necessary.

Don't try to dramatize the tiny face of a child with spotlight effects. Their appeal is simplicity. This simplicity makes a baby picture unique in that it may be reproduced for years in any country and will always charm the viewer.

Don't give children toys to play with unless you have a lot of time to spare. A couple of good shots may be had while the baby is gurgling expectantly and reaching, but after that they sit with their face too close to the toy for good photographic subjects. The expression of rapt attention is maintained for a prolonged time and is not as strongly interesting as many others. And if you try to take the toy away from the child, you find yourself a blackguard with a howling accuser on your hands.

Don't forget to introduce contrast in subject matter in your shots. The tiny child clambering on the chair designed for grown-ups is much more helpless-looking and emotion-stirring than the baby sitting on a toy chair.

One of Korling's most widely reproduced and acclaimed pictures is of a dainty baby hand in the hand of a grown-up. A variation of this, showing the chubby little fist closed about an adult's finger, has also been widely published.

Torkel Korling loves children. He participates in their games and treats them as equals. Children love him for it. Korling maintains that children always know more than they are credited with knowing. As evidence of this, he points out, "Did you ever notice the contempt on the face of a child for the assinine actions of the photographers of the 'kootchie-kootchie, see-the birdie?' approach? A photographer should act like a grown-up in the presence of children, not like a darned fool. Don't be stiff or formal, of course, but be yourself and forget all about baby talk."

Korling loves children for their naturalness. That's why he goes to their homes to work, rather than bring them to unfamiliar surroundings. He applies this search for the attractive in natural environs to all of his work, even industrial jobs. No piece of newly-painted machinery taken from a store for Korling. He prefers to photograph the machine in action; feels it has more powerful appeal that way. His famous animal shots also follow this practice of the natural and unadorned in photography.

One of Torkel's animal shots, a close-up of the head of a rooster, appeared on the cover of *Life*. Inside, the publication carried a note explaining that the name was left off the cover because to have used it would have spoiled the photographic excellence of the work. Another issue contained nine pages of his photography. *Life* designated him as a master photo-



Torkel Korling

graphic reporter whose pictures showed such strength that they were sometimes of greater interest than the subject matter they portrayed.

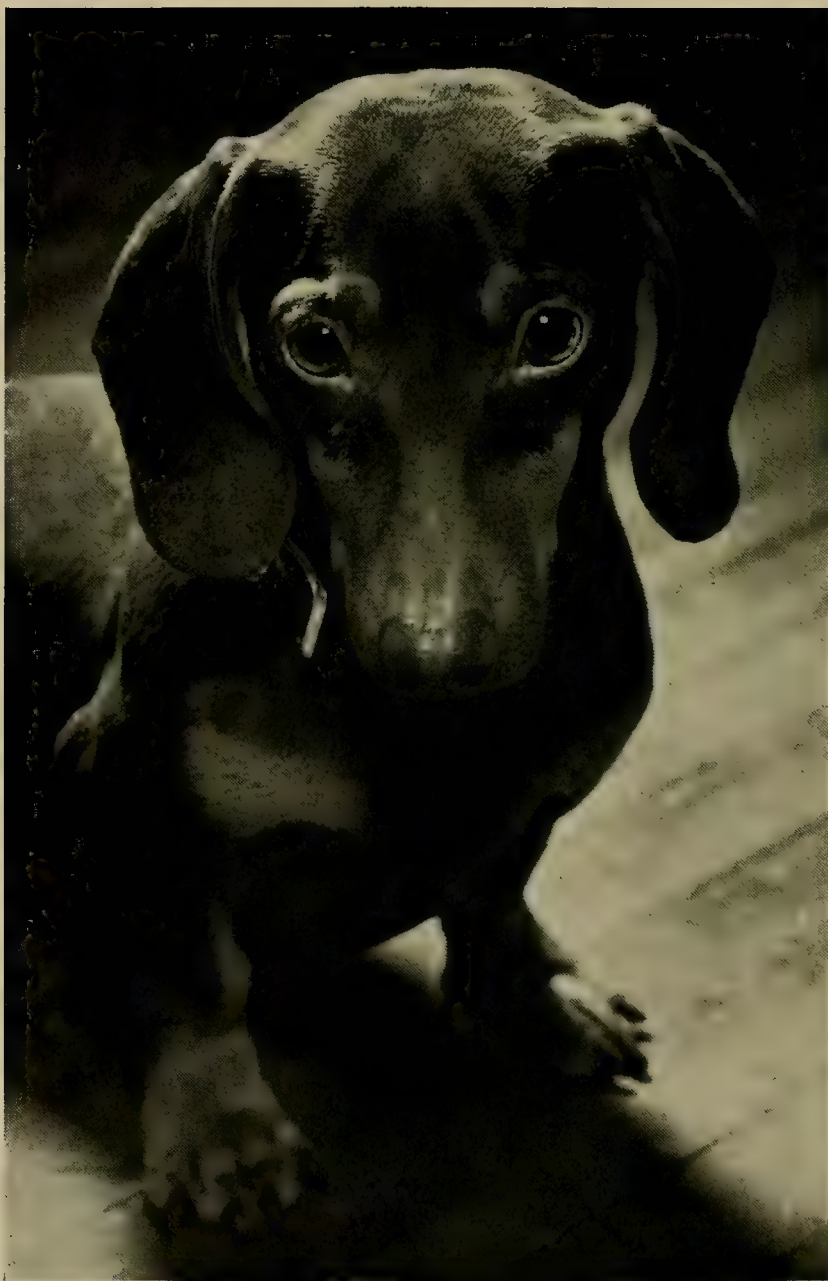
He never submits his work to competitions, although advertisers and publications using his work occasionally do so. That's how he happened to receive this year's award from the New York Art Director's Club for the best photographic illustration, and that's how *Printing Arts Quarterly* happened to give him its award of excellence for 1936-37.

Korling has lately become far better known abroad than in America, and he's far from unknown here. The London *Sunday Pictorial* has repeatedly acclaimed him one of the outstanding geniuses of today and his work has appeared frequently on the Continent.

This is the man who, after receiving the equivalent of a college education in Sweden, came to the United States on a student tour. He was bent on becoming a farmer some day. He liked America, decided to stay here, discovered American farming was far different from Swedish, lacking communal life and requiring much the ability of a garage mechanic, so he turned to photography. He worked about a year for others, then got a 4 x 5 view camera and started on his own. In 1928, while visiting several accounts, he noticed how wide was the demand for baby pictures. He took several shots of friend's children. Within a week he had sold three at a very respectable price. Thus Torkel Korling got started.

But doesn't photographing children take an endless amount of patience?

"Of course it does," Korling's rich voice booms, "but not nearly as much as fishing—and if you're as unlucky at fishing as I am, you'll far prefer a good child picture to the average day's catch!"



Torkel Korling

Champlin 16

Harry Champlin

Formula 16 is not just another developer. It is new in composition and effect.

Before this developer was compounded, a list of desirable features was made up and all experimental work was based upon these requirements. The only way to accomplish anything is to first know your objective and then concentrate all effort towards it.

Tone quality should be the first demand made upon a developer. Tone quality means that a photograph should have in it a range of tones comparable to those seen by the human eye. Tone quality has been arrived at in the past through the use of the exact exposure required for a scene and then perfect development of the negative. This is relatively easy when you can develop each negative individually.

The miniature camera with its large film capacity has made individual development of negatives highly impractical. For this reason, Formula 16 was compounded in such a manner as to give tone quality over a wide latitude of exposures. In other words, exposures made with a Contax at 1/125 of a second and ranging from f/2 to f/16 appear as if there were nothing more than one stop difference between the darkest and the lightest negative. In fact, negatives exposed at one stop less and up to four stops more than the times recommended for Formula 15 all print on normal paper and with a slight variation in printing time, appear exactly alike. This means that Formula 16 has latitude in exposure.

Latitude in developing time is another feature sought for Formula 16. Many times during the development of a roll of film, the amateur is interrupted and there is an increase in development time. With all ordinary developers, this means that contrast is increased, for contrast is a function of developing time. Formula 16 will build up contrast to a certain point and then no more will be built up.

In order to attain this highly desirable feature, it was absolutely necessary to restrict development of the image to the surface of the emulsion. This was accomplished by selectively hardening the gelatin in such a manner as to prohibit the highlights from developing deeply into the emulsion. The shadows, however, were not greatly effected and were al-

lowed to attain a relatively greater density. Ordinary developers build up much more highlight detail than shadow detail. Formula 16 has more actual usable shadow speed than any developer so far tested. This accounts also for the fact that there can be a variation in development time without effecting tonal values.

Still another feature which materially aids in producing consistent results is the fact that Formula 16 can be used with temperatures as high as 80 degrees F. In fact, there has been no reticulation or other bad effects in negatives developed for periods several times as long as the actual developing time with these temperatures. Tests in the laboratory showed that if a piece of film was inserted in the developer at, for example, 80 degrees F. and left in there for twenty minutes and then fixed in an acid fixing bath at the same temperature, there would be reticulation through that portion of the film which was not in the developer and which had been subjected to the fixing bath only, while the part which had been in the developing solution and the fixing bath could be wiped with a dry handkerchief or a towell without harming the gelatin. Moreover, there could be a wide variation in the temperature of the developing solution without materially affecting the results. Films developed for eight minutes at 68 degrees F. and for eight minutes at 75 degrees F. are very much alike. However, there is always one best in everything. This is true of developing times and temperatures, just as it is true of everything else. No developer so far compounded will work at one time for all temperatures and so the amateur is cautioned to follow the time and temperature tables recommended for use with Formula 16. These tables were worked out scientifically and the only change that should be made in time is when the film is agitated constantly during development; for constant agitation there will be a decrease of 15 per cent in development time. The usable temperature range selected for Formula 16 was from 65 to 80 degrees F. These temperatures were found to be the average usable range throughout the year for the whole country. The results will be identical with one film developed for eleven minutes at 65 degrees F. and another for six minutes at 80 degrees F.

Consistent results cannot be assured by any developer which has to be used over and over again. The best results are realized when a developer is used once only. This is ordinarily a very costly method of development. Others have made developers to which are added replenishers in order to make up for the weakening of the solution through use. Neither the increase of time method nor the replenisher method is scientifically sound. In the first place, it is here that the developer is constantly weakened by the bromide and silver products thrown out of the film into the solution. Then, too, there is a constant increase in the acidity of the solution until the time finally arrives when no more development can take place. The replenisher method consists of adding chemicals to the developer to overcome this change in the solution. It does not stop contamination by bromide and silver, but it usually takes care of the change in the acidity of the solution. There comes a time, after so much replenisher has been added, when the developer is no longer one compound. It is, in fact, something entirely different. No two developers work exactly alike and, therefore, there will



"Sons of Bacchus"

V. Wolfgang von Hagen

This picture offers an interesting example of the quality obtainable with modern emulsions under tropical conditions even with ordinary processing. The picture was made by Dr. von Hagen during an expedition to Ecuador. Unusually high temperatures were encountered as might be judged from this picture.

Data: Certotrop Camera; Schneider lens; 1/10th second at F:18, on E. K. Ortho Press, in D-76.*

* This picture is not presented as illustration of Mr. Champlin's article—has no connection with it. -Ed.

be a gradual change in the quality of the result. Formula 16 was compounded as a concentrated solution; one part and nine parts of water form the working developer, which is to be used once only and then discarded. There are two methods of compounding concentrated developers. One is to have a high concentration of chemicals and the other to add to the solution a powerful accelerator so that every bit of energy will be exercised in the diluted form of the solution. It is almost impossible to concentrate most fine grain developers beyond two or three times the usable volume. Ordinary developers can be made into concentrated solutions because they have strong alkalis which are used to accelerate the diluted solution. This cannot be done in fine grain work because these same strong alkalis have a very detrimental effect upon the grain structure of the negative. Creation of an entirely new compound which was at once an accelerator of the reducing agents and a preservative of the emulsion structure made diluted solutions possible. This compound is made up of some six chemicals fused into one at a temperature well above 300 degrees F. The possibilities of this compound are tremendous, for tests have shown that it can replace borax and carbonate in many formulas and these formulas can then be used in a diluted form and still produce better negatives and have a longer life than they originally possessed. As soon as further experimentation has been completed, an article will be written on this subject.

The possibility of toxic effect is a serious menace. For this reason, Paraphenylenediamine was not even considered for Formula 16. You can actually put your hands in Formula 16 without fear of stains or poisons. You can use it in your home without ruining everything.

Compounding of a fine grain developer, such as Formula 15, requires accurate measuring devices. In fact, the requirements for accuracy are beyond that of the average photographer. Formula 16, on the other hand, can be mixed easily and quickly with cold water. This will prove to be a boon to people who are in the habit of waiting until they have a roll of film to develop before mixing up a solution. No warm water is required.

The chemicals making up the working developer are readily obtainable and the compound, which I have called Tironamin C, will be made up by the Chemical Supply Company, for all those who wish to prepare their own solutions. Developing developers is a hobby and not a business. I do not manufacture these formulas, but I am interested in the success of them and in hearing from people who have used them.

Knowledge is the result of an accumulation of the ideas of many people. At this time, it should not be amiss to express appreciation to Mr. Hollis Moyse of Du Pont; Dr. Herbert Meyer and Wilson Leahy of Agfa Ansco for their invaluable assistance in the final laboratory tests of Formula 16, and to Willis Cooper, Arkell Bernap and E. C. Kalbfus for their many tests from the amateur's point of view of Formula 16. Without the generous help of these men, the compounding of Formula 16 might never have been completed.

The formula for Champlin 16 along with complete working instructions, will be published exclusively in a completely revised edition of Mr. Champlin's book "CHAMPLIN ON FINE GRAIN." Ready Nov. 15th, price \$2.00. Published by Camera Craft Publishing Company.—Ed.

Lewis Carroll, Amateur Photographer

The Story of Two Rare Photographs

Flodden W. Heron*

"\$150 for one photograph! How come?" That was the expression of a business man, whose diversion is his camera, in reply to a couple of questions. If you, as one interested in photography, were asked to name the amateur photographer who made photographs, all of which sell currently at auction in New York and London, for from \$50 to \$150 each; or to name the amateur photographer who made a photograph that was given a full page in its reproduction in *Life* magazine recently, could you answer the questions correctly? If not, the following story may be of interest to you.

Lewis Carroll (Charles L. Dodgson), author of the now famous classic, "Alice's Adventures in Wonderland," was one of England's early amateur photographers. Back in those days the cameras, made of wood, were large and cumbersome. Furthermore, it was absolutely necessary for the subject to sit very still for several minutes in order to create the proper image on the negatives (the wet plate process) then in use.

From early boyhood Lewis Carroll had been a maker of toys, puzzles, games, and was always drawing pictures, so it is easy to imagine how, when in his twenties and a keen mathematical student, and the new developments in photography came out, that one with his technical knowledge and mechanical inclination would grasp this new pastime with genuine enthusiasm. In fact, he became so enthusiastic about it, he wrote what he termed "merely a verbal jingle" on photography in the form of a parody on "The Song of Hiawatha." His penchant for slipping mathematics into all of his writings is evident in the following:

*Flodden W. Heron of San Francisco is an international authority on the First Editions of ALICE'S ADVENTURES IN WONDERLAND.—Ed.

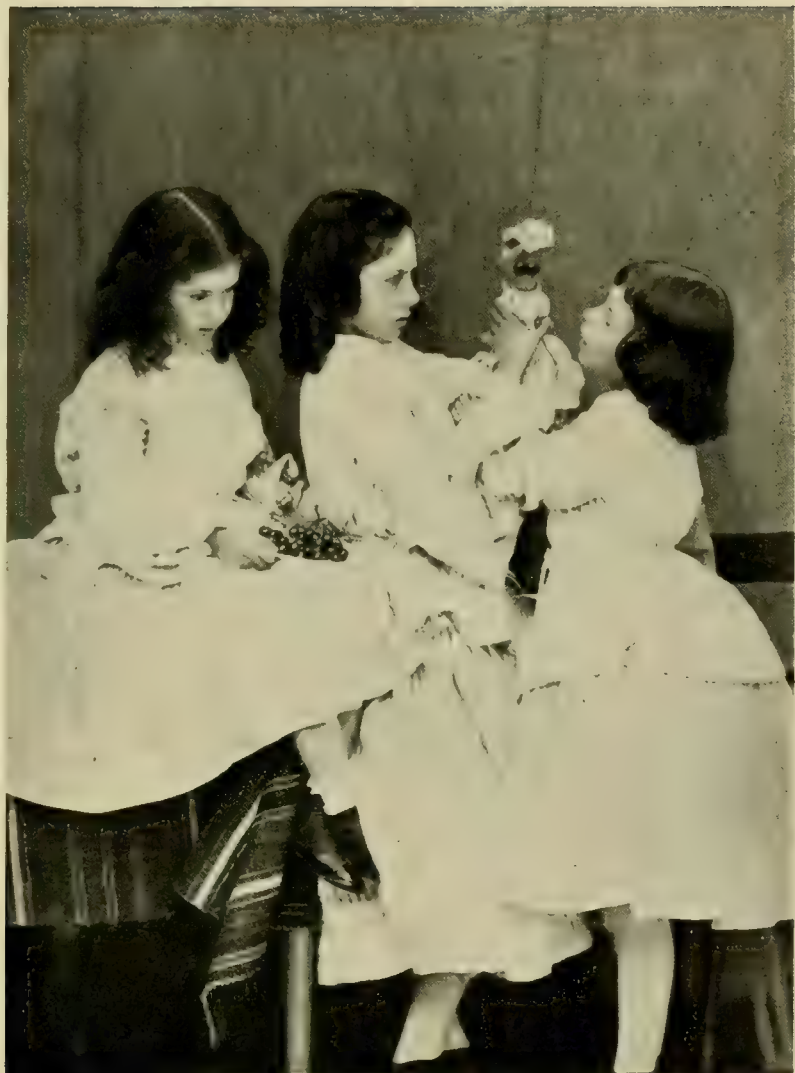


*Rare Photograph of Lewis Carroll,
taken by himself.*

"From his shoulder Hiawatha
Took the camera of rosewood,
Made of sliding, folding rosewood;
Neatly put it all together,
In its case it lay compactly,
Folded into nearly nothing;
But he opened out the hinges,
Pushed and pulled the joints and hinges,
Till it looked all squares and oblongs,
Like a complicated figure
In the Second Book of Euclid.
This he perched upon a tripod—
Crouched beneath its dusky cover—
Said 'Be motionless, I beg you!'
Mystic, awful was the process."

Being an adept, discerning slave to his new hobby, he soon became quite expert with his camera and today we have the results of his efforts which give us evidence of his ability and efficiency. He was careful, exacting and meticulous. Of all men he possessed in high degree that "infinite capacity for taking pains." He kept accurate records of all negatives developed and also maintained a numerical record of all photographs he made. In his diary we find an entry reading—"They say that we photographers are a blind race at best; that we learn to look at even the prettiest faces as so much light and shade." He later wrote a friend and described himself as one who for twenty years had found his one amusement in photographing from life.

When we consider that he was taking photographs at a time when photography was crude in its operation as compared with the process of today, his portraiture is remarkable for his original attempts at "pictorial effects." He particularly enjoyed practicing his art on distinguished people and he posed many well known artists, sculptors, and writers of the period. In October, 1859, the young Prince of Wales (the later King Edward VII)



"Eating Cherries"
Rare photograph taken by Lewis Carroll of the
three Liddell sisters, Alice on right.

arrived at Oxford and when young Dodgson met him, their conversation was devoted almost exclusively to the photographs this amateur was making. The latter took great pride in this friendly chat and was highly pleased at the Prince desiring a few samples of his work. All the big lights of Oxford sat before his camera, including Lord Salisbury, who was Chancellor at the time. The list also includes Tennyson, the Rosetti family, Ellen Terry, John Ruskin, George Macdonald, Charlotte M. Yonge, Sir John Millais, and a number of others known to fame.

While for many years an earnest and sincere photographer himself, in later life after fame had reached him, he said certain camera men, strangers to him, were as "malicious as hornets," and from these he fled in terror. Therefore, we have few photographs of Lewis Carroll taken by others, but there are several of him taken by himself. To take these, he arranged an apparatus for operating the camera, by a cord attached to his foot. One of these scarce photographs of him thus taken is reproduced herewith from the original.

He delighted in taking pictures of his friends and later presenting to them the "likenesses," as they were then called. These photographs taken, developed, and mounted by Lewis Carroll personally, are now rare collectors' items. Of course, he took several photographs of his little friend, Alice P. Liddell, the girl who inspired the famous story. The one shown herewith, No. 614 and entitled, "Eating Cherries," is particularly interesting on account of its history, and furthermore, because it appears to have been admired above all others by Alice herself, as the following story discloses.

The original manuscript of "Alice's Adventures in Wonderland" fetched approximately \$75,000 at auction in London in 1928. Within six months thereafter it was sold in America, together with two copies of the book, for \$150,000. No other children's story has been translated into so many languages nor has any other equalled it in numbers sold. It averages over one thousand copies weekly in the United States and the world sales have at times been exceeded only by those of the Bible. The centenary of the birth of Lewis Carroll was celebrated in many cities throughout the world in 1932. The most elaborate of these was held by Columbia University. The original Alice, then Mrs. Reqnald Hargreaves, was invited to come to New York from her home near London, as the honored guest of the University on that occasion.

The invitation was accepted; and upon her disembarkation from the ocean liner on arrival in America, while the camera men were busy, the first questions asked were regarding any personal mementoes that she might possess in connection with the origination of the famous story or its author. For answer she had with her the cabinet size photograph reproduced herewith, taken by Lewis Carroll. It is a picture of the three Liddell children, Alice and her two sisters. Of them Lewis Carroll wrote:

"Ah, cruel three! In such an hour
Beneath such dreamy weather,
To beg a tale of breath too weak
To stir the tiniest feather!
Yet what can one poor voice avail
Against three tongues together?"

This photograph was taken at the period when the story of "Alice's



"Long Shadows"

Peggy Gold

From an exhibition of Pictorial Photographs by Peggy Gold, opening November 15, 1938, at the new Westerman Art Gallery, 24 West 48th St., New York City. The exhibition will contain fifty prints and will run through November 30th.

"Adventures in Wonderland" was recited for the first time in 1862, three years before the book was published, Alice Liddell then being ten years of age. As Mrs. Hargreaves celebrated her eightieth birthday while at the Carroll centenary in New York, we observe that seventy years had passed since this photograph was presented to her. Through all those intervening years she had cherished and preserved it as a memory of her happy childhood.

Lewis Carroll greatly enjoyed the theater and he, therefore, approved and encouraged the production of his famous story on the stage. His ever-welling spring of crystal humor produced many clever lines, scenes and fancies. Possibly he used his imagination as a magic carpet on which to be wafted away from his real self to a Wonderland all his own. But in his most extravagant, wildest flight of fancy he could not have visualized that some day hundreds of thousands of photographs of his characters would be made and later appear on a screen to be viewed by millions of people throughout the world, as will be fact when the announced plans of Walter Disney, he of "Snow White" fame, are completed; nor did Lewis Carroll ever dream that in some far-off day, photographs made by him would singly fetch high prices and that some of his originals would become extremely scarce and be greatly prized by collectors.

Some photographs, like some paintings, become rare and famous. Who can say, when a camera clicks today, what the picture produced will be worth fifty or one hundred years hence?

The Model

H. G. Cox

THERE is an old saying that "A workman is no better than his tools." and this is true in photography as in anything else. If you are intending to make photographic studies of the nude you must first consider your model—in fact you must consider your model first, last and all the time—but my prior intent was that you cannot make good studies with an inferior model. The quality of your equipment is of paramount importance, and the model is for the time being a major part of your equipment.

I am dealing at this time with nude photography outdoors, but I would mention here that anyone who has an inclination for this branch of photography would do well to commence their studies in the studio, working out original poses and settings. By doing so you will cultivate a conception of line and rhythm that will be the foundation of your studies out-of-doors.

My first models were inanimate, that is, they were dainty porcelain figurines, about five inches high. They were of dull porcelain, flesh colored, mostly in action poses, and unmounted; there were, however, holes in the feet so that they could be stood erect on a thin rigid wire or needle. I used them singly or in groups, making my setting to suit the study I had in mind. I also used them out of doors, and my first salon prints, shown in London and Paris the same season, were made from these models. It was only when I began to exhaust the possibilities of these inanimate models, and could not procure them in new poses that I looked around for living models, that could change the pose to suit the rhythm of the setting, instead of having to build a setting to conform to the set pose of the porcelain figures. I learned a lot, however, from my work with these dainty figurines, and it stood me in good stead when later I came to work with real living models.

In my ignorance I consulted an artist friend who was director of an art school, and employed models in his classes. He sent me a model, and alas, I found then that an artist's idea of a model for drawing and an artist's idea of a model for photographic studies are as far apart as the poles. My friend considered the model he sent me a good model, but the moment she stepped out of her dressing robe in the posing room I knew that she was impossible for photography. I do not doubt that there are good professional models. I have seen many models in the class room, posing for



Fig. 1. From outdoor model test. Good poise—well moulded figure—slightly heavy appearance of hips due to low viewpoint used in order to lower horizon and define figure..

the students, but not one that I would wish to use in my own work. Perhaps I set my standard too high. Artists frequently come to me for models, but I do not go any more to them.

Most of my models since that time have been chosen from my own circle of friends and acquaintances, and I believe this to be a good plan to follow, if they have the requisite qualifications. I have, perhaps, been particularly fortunate in this respect. A year ago I needed a good model or two for commercial work, in quite a hurry. I would not use my pictorial model for this work, so as I had to have them quickly, and was busy, I advertised. I asked for models with good figure and personality. I received thirty answers to my advertisement, and some of them had personality, but not the kind that one could put into a one-piece modern bathing suit and let loose upon a discriminating public. I was able to select one, and only one that I could use. I resolved then and there to use more care in wording the message should I ever have to advertise again for a model.

Then came Spring, and thoughts of outdoors, and I checked over my equipment and my ideas for new studies, for I note down the thoughts that come to me from time to time, and make sketches for later use. But the coming of Spring brought ideas to other people; it brought thoughts of wedding bells to the best outdoor model I ever had, to my great disappointment.

I have always, as previously intimated, trained my own models, and at this time I had no other that I could call upon, so, with so much good weather

going to waste I resolved to advertise again. I spent a little time and care in wording the message, as I could not waste time in interviewing unsuitable material, and I evolved the following: "Artist's Model. Interesting summer employment for girl 16 to 22, varsity student preferred, of real refinement and personal charm, with better-than-average figure. These qualities more essential than previous experience. No class work. Good pay if suited. Unless you can qualify please do not apply." Before I go further I would advise anyone intending to advertise for a model, unless personally known to the newspaper staff, to take your copy personally to the chief of the advertising department and give particulars of your work and your intentions. Reliable newspapers always investigate such advertisements before they appear in print.

The response to my request was gratifying in the extreme. The applicants were without exception girls of fine type and of good family, mostly university students or graduates. Most of them sent personal measurements and some description of their physical attractions, age, coloring, etc. From these I made a selection and arranged for an interview. To these I gave personal references, though I requested none. All applications were courteously answered. I engaged a girl whose application showed taste and refinement, but whose physical measurements did not meet my requirements (she was five feet eight) to receive the applicants and arrange appointments, which were arranged at twenty-minute intervals. You will ask, "What do I look for in an applicant? How do I choose a model?" Well, I go a lot on intuitive judgment. I know the qualifications that a model should possess, and know instinctively if she has them or not, but in interviewing a number of persons some will have these qualifications in greater degree than others, and there is always the possibility that a girl who looks really excellent in her street clothes may not measure up nearly so well without them, when they are to be used for nude studies, where physical defects or unbalance are ruled out.

The first things that strike one on meeting a person for the first time are naturally personal appearance and personality, both of paramount importance in a model. I am not impressed with or taken in by false values, which I am quick to detect. The first formalities over, I show them a folio of my salon studies, mostly nudes or draped figures, and a few portraits for variety; this serves admirably to place things on a common foundation, and gives me a very good idea as to whether the applicant possesses any art instinct or art appreciation, and also serves to give them a clear idea of the work I wish them to undertake, provided that they are suitable.

I carefully note their reaction to the studies. I encourage them to express an opinion, and found in some of them quite an understanding of line and composition. After a short chat about the folio studies I find whether or not they like that kind of work, and if favorable I ask them directly if they would care to pose for me in that type of work. If they hesitated I usually closed the interview, as the type that has to be persuaded is not usually pre-eminently successful as a model. They should know clearly and decisively their own minds. If they assented readily, as most of them did, having probably expected it when they applied for the position, I asked them if they had the consent of their parents, which is advisable even though they are of age, and essential if they are minors. This being satisfactory I would



Fig. 4. Outdoor model test. Model 27 years of age. Note smooth, even lines, good poise, good skin texture.

or studies you have in mind, and what you have planned for your first picture. While you are busy with the preparation of your equipment she will disrobe and make ready. The dominant thought now in your subconscious mind will be the picture you have visualized in the setting you have selected, and with this thought and your mind busy constructing the lines and rhythm of the composition, your model will catch the spirit of the quest, subconsciously following the trend of your dominant thoughts, and at your suggestion will fit herself into the study, assuming the mood, playful or serious that you have chosen to portray, her thoughts following you in complete harmony. As shot succeeds shot you will find this blending of thoughts more evident, if you have chosen your model aright. Use patience with your model, and more patience. If she does not at first seem to fit into the scheme of the composition the fault is possibly yours, at any rate do not give her cause to feel that she is at fault. Pretend to make a few exposures; that will be encouraging. Give praise where it is due, and let her see that you are pleased with your shots, but do not idly flatter—be genuine. Do not let your model “pose,” her attitude should be natural in nature’s setting. Do not tire your model with too much tramping in search of settings. Know where you can work with absolute safety from intrusion, and know the points at which you are going to arrange your studies beforehand.

Remember that your measure of success depends much upon yourself and your attitude to your model, just as much as upon your ability to arrange compositions. Look well to the comfort of your model, and don’t forget that “Courtesy pays dividends.” Mark well these points, study your subject, and you will be rewarded with increasingly better pictures.

Cinema Section

Edited by

William A. Palmer

Measuring Incident Light For Color Exposures

PHOTO-ELECTRIC exposure meters, while being recognized as the most reliable method of determining black and white exposures, have not been infallible for measuring exposure conditions for Kodachrome and other color processes. The reason for this is that the light-sensitive cells used in the meters do not respond with equality to the same amounts of light of different color value. For example, if equal quantities of blue, green, and red were presented to the meter, it will read high on the green and low on the blue and red. This is a characteristic of the photo-sensitive material of which the cell is made and has nothing to do with the care or accuracy with which the meters are constructed. A color film, on the other hand, must be sensitive equally to all three primary colors if it is to record color values with proper fidelity.

In many cases, when using a photo-electric exposure meter, the readings will be accurate for color work because the mixtures of colors are such that the cell responds to the average, which happens to coincide with the film sensitivity. But there are often many other occasions when the reading of the meter leads to badly exposed shots when the scenes predominate in colors from which the meter's sensitivity is divergent from that of the film. It is this unreliability for occasional scenes that has made some conclude that the meter was erratic in its functions.

It would be theoretically possible to make a color filter which would be placed over the cell of the meter and cause it to have an equal sensitivity to all colors, but such a filter would absorb so much light that the meter would have a very low sensitivity.

A logical solution to the problem of making readings for color film is the one suggested several times in earlier issues of this magazine: Always take the meter readings on a neutral gray object, such as a piece of poster card, which is placed in the position that the subject is to occupy. A neutral gray color, illuminated by white light, will eliminate any color difference of the cell. There are two difficulties with this "gray card" system. It is annoying to have to carry around a sizeable piece of cardboard, and the readings, when made, do not take into

account the direction from which the light comes. A scene illuminated by full front light will require less exposure than one illuminated with the same amount of light coming from the side. The card being a diffusing two-dimensional object, will reflect approximately the same amount of light toward the camera even though the light comes from a very acute angle.

What the gray card does, really, is to measure the incident light; that is, the light falling on the subject. When the meter is used normally, it measures the brightness of the subject or the light reflected from the subject.

The thought quite naturally will suggest itself: If the photo-electric exposure meter is a precise instrument and its one fault for color work can be avoided by making readings of incident light (which is always nearly "white"), why not rebuild the meters or make an attachment for them which will cause them to read incident light?

With this thought in mind, experiments were conducted with a Weston Universal meter using various diffusing mediums over the cell so as to eliminate the "acceptance angle" or directional effect of the multiple lens cell covering. It was obvious that a straight diffusing medium, such as ground or opal glass, would not be entirely satisfactory, for it would be a two-dimensional object and would be affected almost as strongly by angular lighting as by full front lighting. It would, therefore, be scarcely any improvement over the gray card system, requiring interpolation when used in angular light. What was needed was a diffusing device to place over the cell which would cause the meter to read the *effective photographic value of the light falling on the subject*.

What is effective photographic light falling on the subject? It is determined by two factors: (1) by the intensity and amount of light falling on the subject, and (2) the direction from which the light comes. For example, referring to the Eastman exposure chart which comes with Kodachrome film, the basic exposure for full front lighted subjects in bright sunlight is between f8 and f11. Side lighted objects in the same bright sunlight require an exposure of between f5.6 and f8, and back lighted objects an exposure of between f3.5 and f5.6. In other words, the position of the camera with respect to the light source is very important and any device applied to the meter for incident light readings should take this into account.

Therefore, experiments were conducted with three-dimensional diffusing devices to place over the cell and integrate the light available for photography. The one illustrated here was evolved as the simplest of several shapes to serve as a light collector. In all of the color exposure conditions under which it has been tried, it seems to be a satisfactory answer to the problem of correct color exposure. While it is contemplated that the device may be put on the market soon, we are going to describe its construction, so that individuals may make it for their own use and put it to further practical test under varying conditions. We hope that any who do so will report to this department, describing results.

The Construction of the Incident Light Unit

The device, as can be seen in Figure 1, is in the form of a translucent pyramid which can be held over the cell while readings are taken. The pyramid is made of frosted celluloid according to the pattern shown in Figure 2. The pattern can be laid out on the celluloid, cut out and folded along the dotted lines which

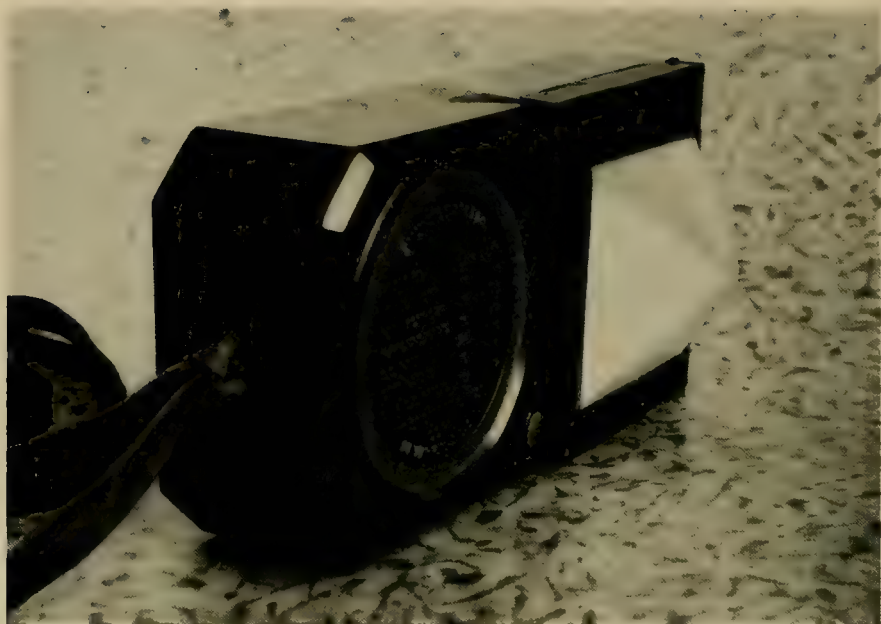


Figure 1.

should be previously scored. The small tab is used to fasten the structure together by the aid of a film cement. A cover, to which the pyramid is to be attached, is also made of the same material and shaped like an open end box. The cover is affixed to the pyramid by means of "scotch" cellulose tape, a piece of white bond paper being placed between the two to cut down the amount of light reaching the cell. The completed diffuser, as shown in Figure 1 and Figure 2, can be slipped over the end of the meter and removed at will so that it does not form a permanent addition to the meter at all, but is an accessory.

When the diffuser has been completed, the meter must be calibrated for new "film speeds" depending upon the transmission of the diffuser. It would be possible for the "film speeds" to coincide with those given for the conventional manner in which the meters are used, but it is most likely that there will be a difference. The device illustrated requires the meter to be set to a "film speed" of 5 for regular Kodachrome in daylight and 8 for type A Kodachrome in photo-flood light. A slightly different grade of frosted celluloid or a different thickness of bond paper may change these values.

The new "film speed" is determined best by tests in which readings are taken and then exposures are made at several different "film speeds." The "film speed" giving the best exposure is then selected.

Method of Taking Readings

To use the Weston Universal meter equipped with the diffuser for incident light, this procedure is followed: The meter is *put in place of the subject* and the point of the pyramid is directed *toward the camera lens*. From the light reading

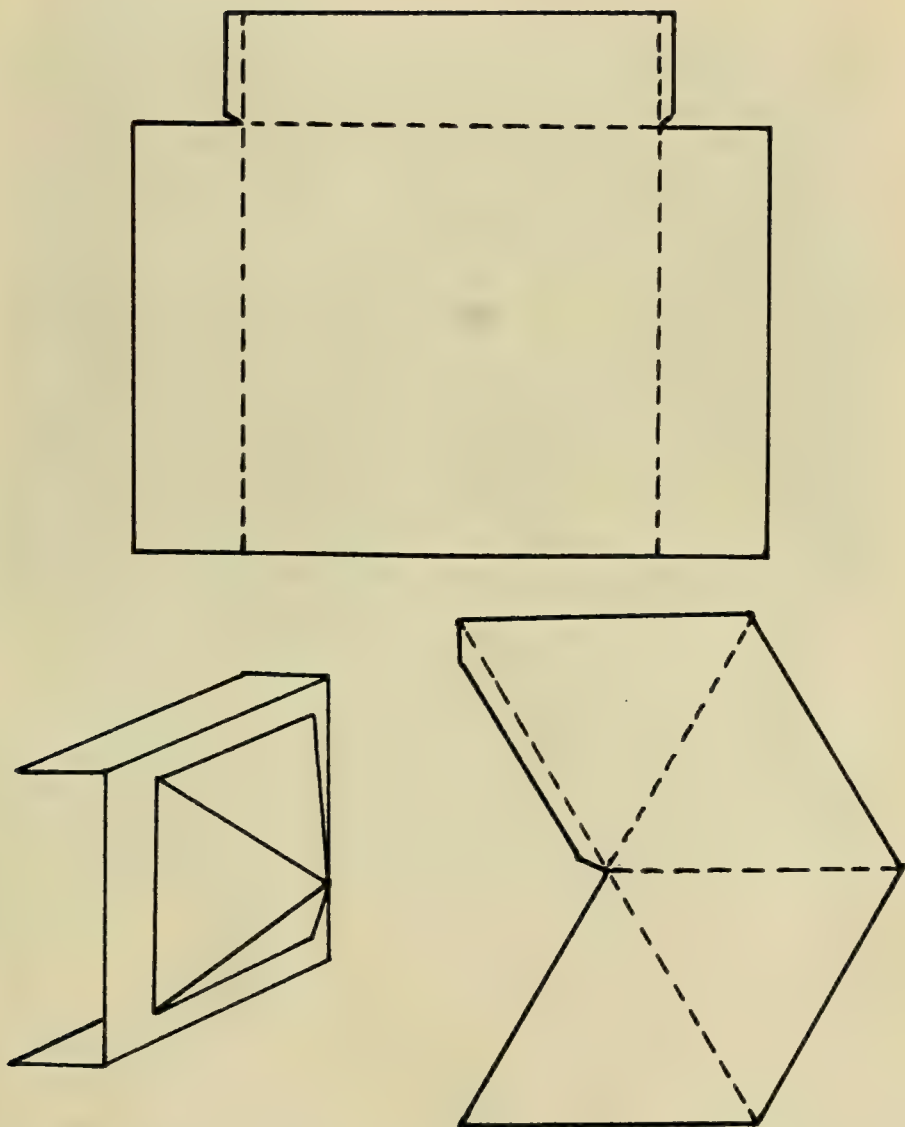


Figure 2. Drawing is reproduced actual size and may be used as pattern for constructing Incident Light Unit.

thus obtained, the calculating dial is used much as in the case of a normal meter, the big arrow being used for subjects of average coloring. As can be seen in Figure 3, an addition to the calculating dial is made to facilitate readings for dark colored subjects and light colored subjects, these two settings giving one-half stop more or less exposure for the extra-normal colors.

The four-sided pyramid-shaped cell covering collects the light from all angles (except from the rear) and is affected most by the light coming directly from the front which strikes all four faces. With side light, only one or more faces receive light and the meter reads less, as it should. In the case of back-

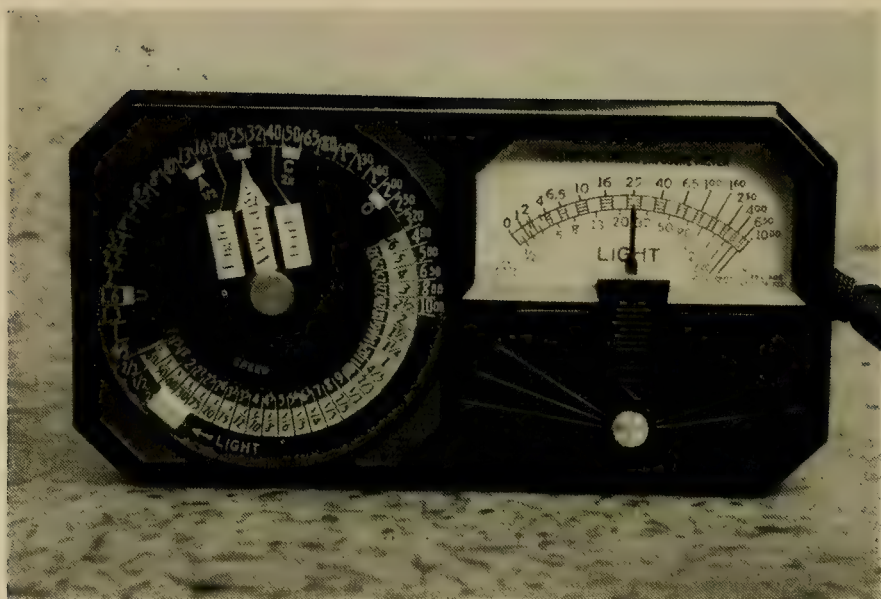


Figure 3.

lighting, the cell is affected only by the reflected light coming from objects in front of it.

There are a couple of difficulties that arise at times in making the readings. It is not always possible to get the meter in the position of the subject. The procedure in this case is to place the meter in light which is approximately the same as that falling on the subject. When working with artificial light relatively close to the subject, it is very important that the meter occupy the exact position of the subject in order to get accurate readings. When photographing titles and extreme closeups the device is at a disadvantage and is not so satisfactory as the gray card method which was fully described in the March issue of this year.

Other models of the Weston meter and other makes of meters can be used for incident light measurement with diffusing devices of similar construction. The dials do not all lend themselves so easily to indicate the exposure for light and dark colored objects, but it is no great difficulty to get the average reading and then interpolate a half stop more or less for extreme colors. Meters with rectangular shaped cells will naturally require a different pattern for the pyramid light collector.

While admittedly this method of taking readings with a photo-electric meter is not so convenient as the conventional procedure of pointing the meter at the subject from the camera position, until the light sensitive cells can be made to respond to all colors with the same relative sensitivity as Kodachrome film, it seems to us the best solution. The only strict requirement to insure accurate readings are that the meter be in the same position that the subject is to occupy and that the cell and its pyramid diffuser be pointed directly toward the camera. The operator must then decide whether the subject is predominantly light colored or dark colored or average colored.



"May"

Ante Kornic, Yugoslavia

Advanced Medal Print

■ We feel sure that all will readily respond to the strong emotional appeal of this picture. The nice feeling of sunshine, the blossoms so beautifully touched with light, the attractive little figures, and the very well managed subordination of the background all combine to produce a picture which fairly sings of the happy, hopefulness of springtime.

This picture is a splendid example of the judicious use of the soft-focus lens or a diffusion attachment to accomplish the same end. Definition is not lost, but the effect of light is subtly emphasized. Notice how the light really seems to vibrate in the blossoms, and about the blond head of the little girl. And notice also that the amount of diffusion is very slight. We can see therefore that in situations where the play of sunlight is the main theme of the picture, and especially when the sunlight is coming toward the camera, that a slight amount of softening of the focus will often enhance the effect of the light to the advantage of the picture.

Data 6 x 6 cm. Rolleiflex; F:3.5 Zeiss Tessar; 1/50 sec. at F:7.5, on Eastman Pan.; Duto diffusion screen.

**Second Award
Advanced Class**



"Speculation"

Frank A. Halliday
Calgary, Canada

establishes the depth of the shadow tone. The second creates the accent points mentioned above. The relative effective intensity of the two lights determines the contrast between the highlights and shadows. The average beginner will make this contrast too great. Notice how very slight it is in this case.

Data: Bulb exposure by artificial light; E. K. Portrait Pan., in DK-76; 8 x 10" straight print on E. K. Opal P in D-64 medium; no retouching.

■ Here is a fine example of lighting, directed by good judgment and an understanding of what the subject requires. Notice the points of accent which the light sets up. A touch of light on the curl; a suggestion of translucence in the bonnet; a bright area on the lower face which includes the hand touching the mouth. These are secondary points of accent created by lighting. The eyes, of course, are the principal point of interest, and it is obvious that these are strong enough to hold their own without emphasis by light. Observe how completely controlled the light is in this picture. Each bit of light placed just as the operator wished and with just the proper degree of intensity. Yet, this is a very simple lighting. Apparently it is made up of a broad general illumination coming almost from the camera position, plus an accent light placed rather high and slightly to the right of the camera. It is important to appreciate the balance between these two light sources. The first gives an even, flat illumination over the whole of the subject, and at the same time

**Third Award
Advanced Class**



"Should We?"

Victor Pokorny
Arnold, Pa.

pose is probably the result of camera consciousness and it suggests that condition to the observer. We do not mean to suggest that either of the figures should be shown in violent motion. Any pronounced action in the figures would take too much attention away from the water which is, after all, the principal theme in this picture. We do think the picture would be improved if the figure on the left appeared to be as aware of his environment as does the one on the right.

Data: Super Ikonta B; 80 mm. Zeiss Tessar; 1/200 sec. at F:11, on E. K. Verichrome in D-76 with medium yellow filter; 11 x 14" print on Defender Velour Black DL.

■ The play of light over this expanse of water is beautiful indeed, and Mr. Pokorny has photographed it to perfection. The figures are nicely placed but we feel that the one on the left fails to perform its proper function. Notice that this figure appears to have adopted a quiescent, almost contemplative pose. This becomes particularly evident in contrast to the alertness of the other figure which seems to be fully conscious of the threat of the incoming wave. We submit that the quiescent attitude of the figure on the left is out of keeping with the environment. His

Fourth Award

Advanced Class

■ We suspect that Mr. Janekovic's principal objective here was to capture that silvery quality of water and sky, which is so beautifully apparent on a still hazy day. He has been very successful in that respect, and we like the tonal emphasis placed on the figures for this dark accent helps to bring out the high key of the landscape. The picture lacks a sufficiently strong connecting link between foreground and background. One almost feels as if he were looking at two separate pictures here. The figures and the water for one, with the hills and clouds as the other. We need something to tie these two parts of the picture together. Obviously the two sailboats were intended to perform that function. They are too small to do so however. If the boat on the right could have been about half its present distance from the camera, and consequently shown at about twice its present size, the picture would be much improved.

Data: 10 x 12" bromide print. Prints may be obtained at the price of \$6.00 upon application to Camera Craft.



"Alone At Last"

*Duka Janekovic,
Jugoslavia*

Fifth Award

Advanced Class

■ This is a difficult subject to photograph well because of the uniform blackness of the material. Mr. McGraw has succeeded very well from the technical standpoint and he shows a splendid feeling for design in his selection of the point of view and in deciding upon the limits of the picture. The "dome" which appears just above and to the right of the center of the picture, definitely constitutes a center of interest, because it is placed in the strongest position and is shown in largest size. Notice the good judgment displayed in trimming into the "dome" in the right foreground. Had this not been done this "dome" would surely have competed for the center of interest. It is clear that the limitations of the picture space have been very well selected, for no opportunity is offered for the eye to slip out of the picture space in spite of the fact that this material is unusually difficult to control in that respect. The picture appears to have been partially toned in sepia color. We think that is a mistake for this subject because the color appears only in patches in the middle tones, and creates a disconcerting color shift throughout the print.

Data: 10½ x 10½" bromide print.



"Depression"

*R. F. McGraw,
Sierra Madre, Calif.*



"Nice Clouds"

Ray Cooper, Detroit, Mich.

Amateur Medal Print

■ This is a picture of plowing activity to which has been added through the medium of the large expanse of sky, a strong feeling of the spaciousness of the out-of-doors. One could wish that there were a bit more shadow detail visible in the darker horse, and that the tree in the background did not appear to grow out of the white horse's rear end, but these are rather minor faults and do not detract to any great extent from the effectiveness of the picture. The title is something of a puzzle. Perhaps it has a satirical intent and quotes the comment of various photographic observers who really had nothing to say about the picture. Be that as it may the title is definitely wrong for it leads the mind completely away from the true feeling and idea of the picture. As we have said before in these pages, a good title adds very little to a good picture, and in that sense the title is unimportant. A bad title, however, can have a very detrimental effect. It suggests that the artist did not really understand his own picture, and it irritates the observer because it is irrelevant and because it presents an unsolvable puzzle.

Data: Agfa Super Pan Press in DK-50; 13½ x 16¼" print on E. K. Vitava Projection B2, in D-52; Nelson Gold toned.

Second Award

Amateur Class

■ Numerous factors combine to make this a charming and amusing little picture. The expression is interesting and nicely in keeping with the action. The pose is particularly fine and it is this combined with the humorous quality of the little shirt that give the picture its entertaining aspects. The centralized spacing of the figure seems fully justified in this case since there is practically no directional movement that goes beyond the figure itself. All suggestions of movement are within the figure and lead the eye directly to the busy little hands. Notice that this is true of the eyes as well as the lines contained in the figure. Under these conditions any additional space at either side would surely appear redundant and would throw the arrangement out of balance. In fact the compact, self-contained quality of the pose is the main factor which makes for its success. There is nothing to lead the eye away and consequently it is possible to present the figure with a maximum of simplicity and isolation. One could wish that texture was a bit more evident in the little shirt. It is now rather devoid of tone value. Slightly more evident modeling of the face and figure would also be desirable. Assuming that everything possible has been brought out in the printing we might suggest that skillful application of Mr. Mortensen's Abrasion-Tone process could greatly enhance the effectiveness of this picture.

Data: 5 x 7 View Camera; 1/25th sec. at F:11, on Agfa Super Plenachrome; 11 x 14" print on Defender Velour Black I.



"Determined"

H. Lott
Utica, N. Y.

Third Award

Amateur Class

■ It cannot be denied that there is a widespread tendency, even among qualified judges, to exclude pictures of this type from the province of pictorial photography. Assuming that our definition of pictorial photography is a broad and inclusive one, as it should be, we can not see any justification for such an attitude. It appears to be based primarily on the individual's reaction to the subject matter, and a tendency to limit "pictorial photography" to beautiful and pleasant subjects. Pictures such as this are frowned upon, not because they lack the qualities which make effective pictures; on the contrary they are a bit too effective in calling up unpleasant ideas and emotions. The point we wish to make is this. Any art form which confines itself entirely to beautiful and pleasant subjects is doomed to innocuous mediocrity. When everything is beautiful, even the very beautiful loses force and becomes commonplace through lack of contrast. Photographic juries throughout the world face the responsibility of encouraging or discouraging, at least to a limited extent, good work in this vein. They would do well to pay more heed to the words of the most

(Continued on page 531)



"Sold Out"

John Pardee
Sacramento, Calif.

Fourth Award

Amateur Class



"Happy"

*Henry M. Mayer
Lakewood, Ohio*

condition in the background. Consequently it is a good rule to always favor definition in the foreground.

Data: 10 x 12" bromide print, sepia toned.

■ Here is a lively and entertaining subject, nicely photographed, unusually well posed, and splendidly placed in the picture space. The arrangement of the right arm and its conjunction with the curve of the basket is a very well-planned device of composition. It organizes what might otherwise be distracting elements into a broad line leading the eye back toward the center of interest. Unfortunately much of the effectiveness of the arrangement is lost because this foreground material is badly out of focus. This same lack of foreground definition, in lesser degree, is noticed in the preceding picture. It can not be stated too strongly that lack of definition in the foreground is almost always a mistake. Even the most ardent advocates of differential focusing, as a device for achieving emphasis, will agree that the focus should fall away behind the center of interest, and not in front of it. Out of focus foregrounds force themselves on our attention much more strongly than does a similar

Fifth Award

Amateur Class



"Girl"

*Arthur S. Siegel
Detroit, Mich.*

the upper corners, and to add just a little space on the right. This last might not even be necessary if the other two corrections were well carried out.

Data: E. K. S. S. Pan., in D-76; 11 x 14" Chloro-bromide print.

■ It is a curious thing how some portraits consistently impress the observer as being revealing likenesses of the subject, when the subject is entirely unknown. It is this undefinable quality that makes for effective portraiture, and it is present in this picture to no small extent. It is interesting to notice how the treatment of the background affects the spacing of the head in the picture space. The brightest part of the background is behind the head. This is definitely a mistake because it attracts the eye away from the face and also has the effect of making the head appear further to the right in the picture space than it otherwise would. This effect is further heightened by the too obvious dodging in of the upper corners. Trimming from the left does not help because this brings the vertical line at the back of the head up against the side of the print in unpleasant fashion. The remedy appears to be to lower the tone at the back of the head considerably; to modify the dodging in of

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Victor Pokorny, for the Aluminum Camera Club; Frank A. Halliday, for the Calgary Photographic Society; Ante Kornic, for the Fotoklub Ljubljana; Duka Janekovic, for the Fotoklub Zagreb; and R. F. McGraw, for The Pack Rats.

The following won prizes for their clubs in the Amateur Class: Henry M. Mayer, for the Cleveland Photographic Society; Ray Cooper and Arthur S. Siegel, for the Detroit Camera Club; John Pardee, for the Sierra Camera Club; and H. Lott, for the Utica Camera Club.

Contributing Clubs

Aluminum Camera Club (New Kensington, Pa.)	Greater Pittsburgh Photographic Society (Pa.)
Amherst Camera Club (Mass.)	Kamera Kranks (Durham, Calif.)
Calgary Photographic Society (Canada)	Lexington Camera Club (Ky.)
California Camera Club (San Francisco)	Los Angeles Camera Club
Cleveland Photographic Society (Ohio)	Olean Miniature Camera Club (N. Y.)
Dallas Camera Club (Texas)	Oregon Camera Club (Portland, Ore.)
Detroit Camera Club (Mich.)	Pack Rats (Pasadena, Calif.)
E.P.I.C. Pool of San Francisco	Sierra Camera Club (Sacramento, Calif.)
Florida Camera Club (Tampa, Fla.)	Tacoma Camera Club (Wash.)
Fort Dearborn Camera Club	Toledo Camera Club (Ohio)
Fotoklub Ljubljana (Yugoslavia)	Utica Camera Club (N. Y.)
Fotoklub Zagreb (Yugoslavia)	Yellow Springs Camera Club (Ohio)
Golden Empire Camera Club (Marysville, Calif.)	

STANDING OF CLUBS

Large Clubs Advanced Class		Small Clubs Advanced Class	
Fotoklub Zagreb	35	The Pack Rats.....	33
Fort Dearborn Camera Club.....	32	Denver Lensmen	14
Fotoklub Ljubljana	23	Yellow Springs Camera Club.....	5
Photographic Society of India.....	5	Calgary Photographic Society.....	4
Photographic Society of San Francisco..	4	Aluminum Camera Club.....	3
Miniature Camera Club of New York....	1	The Camera Clique.....	2
Large Clubs Amateur Class		Small Clubs Amateur Class	
Cleveland Photographic Society.....	18	Taft Camera Club.....	14
Sierra Camera Club.....	16	Calgary Photographic Society.....	13
California Camera Club.....	6	Lancaster Camera Club.....	5
Detroit Camera Club.....	6	Hocking Valley Camera Club.....	4
Photographic Society of San Francisco..	6	Riverside Pictorialists.....	4
Camera Club of Richmond.....	5	Utica Camera Club.....	4
Miniature Camera Club of Oakland.....	4	E.P.I.C. Pool of San Francisco.....	3
Fotoklub Zagreb	3	San Jose Camera Club.....	2
Photographic Society of India.....	2	Kamera Kranks	1
		Norfolk Photographic Club.....	1

(Continued from page 529)

highly regarded non-photographic art critics, who find the work presented in photographic salons lacking in vitality and breadth of vision.

Data: 9 x 12 cm. Voigtlander Avus; F:4.5 Skopar; 1/100th sec. at F:4.5, on E. K. Panatomic film pack, in D-76; 11 x 14" print on E. K. Opal G, in D-72.

Correspondence

Competition Comment

Dear Mr. Young:

Your print critic (is it yourself?)* has read into my print "Escape" a meaning which I did not intend, when he says I have placed it in wartime, and made the threatening cloud a haven. I agree with you that the cloud is threatening, and that is why I titled the picture thus. The plane is running away from it, toward the spectator. Furthermore, if you examine it, you will see it is obviously a transport ship, though of course the details which prove it so are not visible in the small reproduction. I think I would have put another plane into the scene if I had intended it to be a war shot.

Sincerely yours,
R. F. McGraw.

*Yes.—Ed.

Orchids To Mr. Baird

Dear Mr. Young:

Being one of the craft myself I never spend much time writing ecstatic letters to publishers praising my competitors' work, but I cannot refrain from congratulating you on publishing the article in the October issue on the classification of negatives by Earl G. Baird. Perhaps I am overly enthusiastic because of my own acute need for such a system, for this is the most personally useful article I have read in the photographic press in many a day. I hope others will find it as worth while as I have.

Cordially yours,
Nestor Barrett.

What Is Your Photographic I. Q.?

This month we give to you another type of test in determining your photographic I. Q. Previously all you had to do was check the correct answer; this time it is going to be just a bit more difficult. Take your pencil in hand and answer by writing in only one word in the blank space indicated.

Remember the scoring. Ten points are deductible for each error. Excellent, 90% or better; very good, 80%; fair, 70%; below

70%, not so good. The correct answers are on page 538.

1. In the popular D76 formula, four chemicals are used. Three of these are metol, sodium sulphite, and hydroquinone; the fourth one is _____.
2. In photographing a subject which is made up of various shades of the same color, it is advisable to use a filter of the _____ color, to get maximum differentiation of the various shades in terms of black and white. Assume panchromatic film is employed.
3. The normal camera speed of a 16 mm. amateur motion picture camera is _____ frames per second.
4. In taking portraits of subjects who have freckles the best procedure to follow is to use panchromatic film and a _____ filter.
5. Light is said to travel at a speed of _____ miles per second.
6. William Mortensen in his book entitled "Pictorial Lighting" describes "two classes of differences in sensation that might be utilized in representing an object in terms of graphic art." These two classes of differences or modes are known as Notan and _____.
7. In the Eastman "Wash-Off Relief" process, three relief positives are made. They are the blue-green, the yellow and the _____.
8. In photographic practice, liquids are measured and solids are weighed by either the Metric or _____ system.
9. A surface of any nature, such as a printed page, for example, receives a certain illumination at two feet from a light source; at six feet it receives only 1/_____ as much illumination.
10. A formula widely used for correcting over-exposed negatives and consisting of potassium ferricyanide and sodium thiosulphite (hypo) is known as _____ reducer.

Club Notes

Anton Baumann shows color slides. San Franciscans turned out in large numbers for Mr. Baumann's lecture and demonstration and were rewarded by an informative and highly entertaining evening. After showing more than 200 color slides of unusual beauty. Mr. Baumann demonstrated the making of giant enlargements. Accompanying Mr. Baumann on his travels, is the 4th International Leica Exhibit, which was another high point of the evening's pleasure. Lectures were also given in other coast cities and Mr. Baumann will appear in the following cities during October: Oct. 19th, Tucson, Ariz.; Oct. 25th, Salt Lake City, Utah. In the West, Mr. Baumann's lectures were sponsored by Spindler & Sauppe, Inc., western representatives of E. Leitz, Inc.

The San Francisco International Salon, sponsored by the California Camera Club, was recently announced by Mr. C. Stanton Loeber, Club President. Closing date will be March 14, 1939. Entry fee will be \$1.00 and entries will be limited to four prints. The Salon will be shown at the deYoung Museum, in San Francisco, from April 2nd to 30th, inclusive. This show is assured of excellent attendance as San Francisco's World Fair will swell the city's large group of photographic enthusiasts. Entry blanks may be had on request from the California Camera Club, 45 Polk St., San Francisco, Calif.

Sierra Camera Club initiates new members. Initiation into a camera club sounds like a strange activity but at their annual dinner meeting, on Sept. 13th, the members of Sierra Camera Club, of Sacramento, Calif., showed how such a practice could be effectively used. The great virtue of their ceremony was that it completely broke down the reserve of the new members and formed a closely-knit group, a process that under ordinary circumstances might take months of ordinary meetings. At the dinner the initiates were at the beck and call of members and after dinner each new member was posed and photographed under humorous conditions. They were also asked misleading questions on photography that

would have stumped the most learned professional. Most important of all, the members kept everything within the bounds of good taste and they also remembered that if everyone was to enjoy the ceremony it had to be amusing for initiates as well as to the members. No rough stuff, such as paddling, entered into the fun and all enjoyed themselves thoroughly. Other clubs might find such an initiation night a fine method of bringing their members closer together.

Lectures on color photography offered to camera clubs. The International Research Laboratories, 228-7th Ave., New York City, are presenting Mr. Adrian LeRoy in a series of lectures on color photography. Mr. LeRoy is the inventor of the Lerochrome Color Camera which is manufactured by International Research Laboratories. The lectures are free and the club program director can arrange a time by communicating with the address given above.

Oval Table Society Sponsors Annual Exhibition of the Royal Photographic Society. From December 1st to 14th, the complete pictorial annual exhibition of the Royal Photographic Society will be on display at the National Academy of Design, 215 West 57th St., New York City. Of the 220 prints nearly 60 represent the work of American photographers. It is probable that the Oval Table Society will arrange for the exhibition of this show in other cities during the early part of the coming year.

Louis Fleckenstein's Private Collection on Exhibition. Southern Californians will have an opportunity to see a splendid private collection of Salon photographs collected by Mr. Louis Fleckenstein, noted pictorialist. The collection includes prints by many of the world's most famous photographers and were collected over several decades. The Camera Supply, 126 East Third St., Long Beach, Calif., have arranged for this exhibition and these prints have never been displayed before. The show will be on view until October 30th and no photographer, who has the opportunity, should miss seeing these fine prints.

Notes and Comments

Camera Center, of San Francisco Offers Two New Services

The Camera Center, 233 Post Street, San Francisco, Calif., recently inaugurated two new services for San Francisco's photographers.

A spacious, fully-equipped darkroom is now available for rental, at the nominal fee of \$1.00 per hour or \$5.00 per day. The most modern equipment has been installed, with many features for speeding up the work, such as, two film driers and a print dryer; that completely dries two 8x10 prints in three minutes. In conjunction with the darkroom, is a 9x12-foot studio for use in portraiture or tabletop photography.

The other new service, offers the first photographic rental library in San Francisco: For a rental fee of 10 cents per day, a photographer may have his choice of a wide selection of photographic literature. If, after renting a book, the reader wishes to buy it for his private library, the rental fee may be applied to the purchase price.

Special Bargain offer with purchase of Federal Enlarger. The Photographic Book Co., P. O. Box 412, Pittsburgh, Pa., are making a special bargain offer with each purchase of the New Federal Enlarger, Model No. 120. For a limited time, they will include with each shipment a See-Sharp Focusing Device and an Enlarg-O-Chart. Write the above address for complete details.

New Air Brush Catalog. The Wold Air Brush Mfg. Co., 2173 No. California Ave., Chicago, Ill., have been manufacturing air brushes since 1891. They supply a complete line of equipment of this type and have prepared an elaborate new catalog. Those interested may obtain a copy by writing the above address and asking for Catalog No. 47.

Dave Mowat joins McCurry Foto Co., of Sacramento, Calif. The many friends of Dave Mowat in Sacramento will be pleased to learn that he is once more pushing photography in their city. They will find him doing business with the McCurry Foto Co., 731 Eye St.



Zeiss Tenax

The Tenax, a new compact auto-focusing miniature camera for general use and also for rapid sequence shots was recently announced by Carl Zeiss, Inc., 485 Fifth Ave., New York City. The Tenax makes 50 pictures (1x1") on standard 36-exposure roll-film. The camera is provided with a short-throw lever that both advances the film and sets the shutter with a single finger movement. The view-finder and optical rangefinder are combined in a single opening, formerly a feature of only the Contax and Super Ikonta B. Lenses are quickly and easily interchangeable. See the new Tenax at your dealer's or write the address above for further details.

Eastman booklet offered on new miniature films. The Eastman Kodak Co., of Rochester, N.Y., have prepared an excellent booklet explaining the use of their miniature films: Kodak Panatomic-X, Kodak Plus-X and Kodak Super-XX. Be sure to get your copy of this booklet as it is packed with important data. Ask for the booklet on "New Kodak Films For Miniature Cameras."

Miner's Foto-Matic Make-Up Kit. A handy little kit that includes all necessary materials for photographic make-up, as well as instructions on their application, is now being offered by Miner's, Inc. The kit sells for \$2.00 and is available at all photographic stores. This firm is also offering a booklet, "Making Up For The Camera," on application with a 3-cent stamp. Write Miner's, Inc., Dept. 13, 40 East 20th St., New York City.



Simpson's Camera Stores

A new trend in Camera Stores. In preparation for a new surge in amateur photographic interest, two well known Los Angeles retail operators have opened a new trend in camera store service and design, according to many photographic equipment manufacturers and distributors.

Their names are Earl Boaden and Rollin King and their new departure in camera store design was brought to attention on August 2nd when they opened their beautiful store in the Biltmore Hotel Building under the name of Simpson's Camera Stores.

When one approaches the new store he finds two well displayed windows, surrounded by a modern store face covered in satin-like bronze. The large back-lighted sign is simple in design and the subdued flashing colored lights in the background form a direct contrast to neighboring neon displays up and down the street.

The walls are lined with showcases that allow leisurely inspection at close range of a complete stock of camera equipment. The stuffed leather covered benches and

easy chairs, located in convenient spots throughout the air conditioned store, invite you to enjoy your visit in comfort.

The one counter (and there is only one in the store) has a definite purpose. It is here that one orders and calls for film processing. Negatives can be discussed over special counter-sunk and strongly lighted ground glass viewers, or equipment can be taken apart and slight repairs made. In the back of the counter is one of the largest and most unique film displays we have ever seen. Film for every type of camera is housed in long pigeon-hole compartments, neatly arranged and film numbers plainly visible from across the counter.

Opposite this is a complete rental library of photographic books as well as a good supply of books that can be purchased. A neat display of manufacturers' educational literature joins the library.

Three modern and completely equipped dark rooms are provided for use of advanced camera enthusiasts without cost. This is a popular service that helps to spur on the new trend in Camera Stores.



Curtis Dufaycolor Printer

Curtis Dufaycolor Printer for amateur use. The printer is designed especially for the color separation of Dufaycolor Transparencies. It enables reasonably skilled amateurs to make their own color prints. Briefly, its outstanding points of interest are: with some darkroom experience the amateur can make a set of three correctly balanced Dufaycolor separation negatives in half an hour; correctly balanced negatives are made by giving equal exposure to all three negatives; negatives made with the printer have excellent definition and 8x10 enlargements can be made from pictures as small as $1\frac{3}{8} \times 2\frac{1}{2}$ inches; and the Curtis Dufaycolor Printer permits you to make your own paper prints using any standard method of color printing. For further details write Dufaycolor, Inc., RCA Bldg., New York City.

New low prices on Craig Splicers. Craig Junior 8-16mm. Splicer has been reduced from \$3.75 to \$2.50 and the Craig Junior 8-16mm. Combination Splicer and Rewind from \$8.50 to \$7.25. These new low prices will become effective on November 1st. No changes have been made in the quality of these products but reduced manufacturing costs have made savings possible and are being passed on to the consumer. A new descriptive folder on Craig cine equipment may be had on request from the

Craig Movie Supply Co., 1053 So. Olive St., Los Angeles.

Agfa Triple S Pan, a new cut film, has just been announced by the Agfa Ansco Corporation, of Binghamton, N.Y. The new film, an adaptation of Agfa's famed high-speed emulsions, is extremely fast (twice the speed of the well-known Superpan Portrait). Triple S Pan also brings a finer balance of recording characteristics. Ask your local dealer about it or write to the above address for further details.

The Third Rollei Salon now showing in Eastern cities. This splendid show, of 250 outstanding prints, made with Rolleiflex and Rolleicord cameras, is scheduled for showing in the following cities, so Burleigh Brooks, Inc., sponsors of the exhibition have just announced. Nov. 1st-3rd, Indianapolis, Ind.; Nov. 8th-10th, Cincinnati, Ohio; Nov. 15th-17th, Pittsburgh, Pa.; Nov. 20th-22nd, Washington, D.C.; Nov. 25th-27th, Baltimore, Md., and Dec. 6th-8th, Philadelphia, Pa. See your local dealer for complete details or write Burleigh Brooks, Inc., 127 W. 42nd St., New York City. Further showings will be announced shortly.

Burleigh Brooks, Inc., announces new 4x4 cm. Praxidos Enlarger. This new model comes equipped with a 6cm. f:4.5 lens and while it measures up to the usual high standard of Brooks equipment, it will sell for only \$27.50. Of particular interest to many minicams, is the fact that the new Praxidos will include a mask for 35mm. frames.

A new seven section Pocket Tripod has also been added to the Brooks line. It is a telescoping model, weighing only 10 ounces, and closed measures $10\frac{1}{4}$ ", extended 46". Each leg telescopes completely in one simple movement offering exceptional ease of operation. Price \$7.00. See these new Brooks items at your dealer's or write Burleigh Brooks, Inc., 127 W. 42nd St., New York City, for complete details.

Kodak Super-XX is now available in all popular roll film sizes and in film packs. This new high speed emulsion is four times as fast as ordinary film while it is also fine in grain. Kodak Super-XX is fully panchromatic and is made with non-halation backing and yields prints that are beauti-

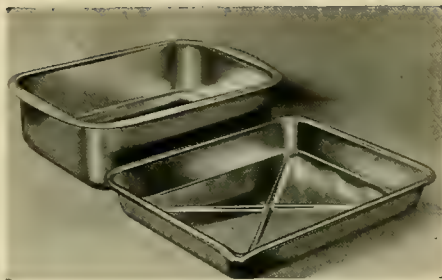
fully balanced black-and-white renditions of colored subjects. Formerly Super-XX was available only for miniature cameras but now this advance in speed can be used advantageously by most photographers. It will permit owners of inexpensive equipment to make good pictures under adverse light conditions. Ask about Kodak Super-XX at your dealers.

20 Color Prints for \$25.00 are now being offered by the Scammon Printing Co., 90 Mary St., San Francisco, Calif. They are made from your own Kodachrome transparencies by the Scam-N-Print process, which makes three-color reproductions with high-grade printing inks on any type of paper surface or, if desired, on cloth. The Scam-N-Print process is said to preserve the detail of the original transparency as well as any other printing process. The finished prints will not curl. The Scammon Co., reserves the right to return any films which they feel are not suited to reproduction. For further details write the above address.

S. V. E. Tri-Purpose Projector can be quickly adjusted to show rolls of 35mm. film or single and double frames mounted in 2 x 2 inch glass slides. The distributors, the Society For Visual Education, Inc., 327 So. La Salle St., Chicago, Ill., are offering free of charge two interesting circulars, "New Thrills From Stills" and "Light Gives It Life." Write the address above for your copies.

X-33 Thermolecular Fine Grain Developer was recently announced by the Fink-Roselieve Co., Inc., 109 West 64th St., New York City. The new developer gives extremely fine grain; a developing range from 65 to 85 degrees Fahr.; fog-free long-scale gradation; no loss in rated emulsion speeds; is non-staining; and staple in all climates and temperature variation. See it at your dealer's or write the above address for complete details.

The Expophot, an extinction/ exposure meter, offers accurate, efficient exposure data at the amazingly low price of \$1.75. Distributed by Photo Utilities, Inc., 10 West 33rd St., New York City, the Expophot is extremely light and easy to use, readings can be made from waist-level. See it at your dealer's or write for free literature to the above address.



Enduro Stainless Steel Trays

Stainless steel developing trays now available. The Columbian Enameling & Stamping Co., Inc., of Terre Haute, Ind., are presenting developing trays and hypo tanks made of Enduro stainless steel. The new trays are said to offer a lifetime of perfect service. Developing trays are available in three sizes, 8x10, 11x14, and 16x20 inches, while the hypo tanks are supplied in only one size. For further details see your dealer or write the above address.

G-E announces changes in Exposure Meter. The General Electric Co., presents a new calculator that is easier to operate and covers a wider range of film speeds. Also incorporated in the new model is a single-arc scale, previously optional and now standardized in accord with the popular demand for simple calibration. Any user of the old model G-E Meter can have his modified in line with the new design by sending it to the General Electric Co., 40 Federal St., West Lynn, Mass. If he desires the single-arc scale, in addition to the new calculator, he should specifically request it. A charge of \$2.50, C.O.D., will be made for the change.

Three new exposure meters, Tempiphot, Horvex and Eos, were recently introduced by the American Bolex Co. All are characterized by a high range of sensitivity and all three feature a novel self-contained calculator, set directly on the light-value scale. The new meters are now distributed to dealers and you may examine them at your local shop or write for further details to the American Bolex Co., 155 E. 44th St., New York City.

New Montauk De Luxe Model Amateur Printer. Due to the success of the Montauk Amateur Printer and its instant acceptance, the firm of G. Gennert, Inc., 20

W. 22nd St., New York City, have announced a new improved article, the Montauk De Luxe Model Amateur Printer. The new model is made of the finest material and workmanship. The printing surface is larger, $6\frac{1}{2} \times 8\frac{1}{2}$ inches, than in the previous model, and the mask shim rails are plated, with wider shims being used. The De Luxe model also includes an adjustable paper guide stop. The Montauk De Luxe Model Amateur Printer will sell for \$14.00.

The Kalart Wireless Press Speed Flash for Speed Graphic Cameras. The Kalart Co., 915 Broadway, New York City, recently developed a refinement in synchronized flash equipment. Some of the features of the Kalart Wireless Press Speed Flash are: a built-in mechanical synchronizer, no outside wires, automatic cushioned action, finger tip release from camera bed, weighs only one pound, adjustable reflector for various bulb sizes, quick change socket with a special lamp ejector, multiple lamps connector, remote lighting feature, two positions for reflector, and combination reflector and battery case in a single unit. During the Chicago Convention, the new Kalart Flash received warm praise from dealers and photographers alike. Write the above address for complete details.

The New Miniature $2\frac{1}{4} \times 3\frac{1}{4}$ Speed Graphic was displayed for the first time at the Chicago Convention by the Folmer Graflex Corp., of Rochester, N.Y. The new camera is 36 per cent smaller than the next largest Graphic size but it incorporates all the advanced features that have made the Speed Graphic famous. The Miniature Speed Graphic also offers several new features such as built-in focal plane shutter flash synchronization at all focal plane shutter speeds of $1/60$ and faster; dual focusing knobs that make focusing equally simple for left or right-handed operators; and an all-metal bed that supplies greater rigidity and increased protection when the camera is closed for carrying. For further details write the Folmer Graflex Corp., Rochester, N.Y.

A new density meter, the Garometer, was recently announced by Color Laboratories, Inc. The meter is perfected through the cooperation of Color Laboratories, Inc., and the Weston Electrical Instrument

Corp., and it incorporates principles never before applied to the measurement of density. The Garometer is a highly accurate instrument and extremely simple to use. Color Laboratories, Inc., have published a booklet giving instructions on using the Garometer but mainly devoted to the calibration and balancing of color separation negatives. It may be obtained for 25 cents from Color Laboratories, Inc., 415 Lexington Ave., New York City.

New circular available on Zephyr Camera. The Photographic Industries of America, Inc., 136 Liberty St., New York, manufacturers of the new All-American Zephyr candid camera, announce that an eight-page illustrated folder featuring the Zephyr Camera has just come off the press.

All those desiring a copy may either write to the manufacturers above or to their local distributors—Raygram Corporation, 425 4th Ave., New York; Hornstein Photo Sales, 29 E. Madison St., Chicago, Ill.; Seeman's, Inc., 6628 Santa Monica Blvd., Hollywood, California.

Answers to "What Is Your Photographic I. Q.?"

From page 532

1. Borax is the fourth chemical; an accelerator. The D76 formula is the classic Eastman developer for films. It is recommended for low contrast and maximum shadow detail on panchromatic films and plates.
2. The same color. For example, in photographing mahogany furniture which is reddish in color, a red filter will show the grain of the wood to best advantage.
3. Sixteen. The normal camera speed is sixteen frames per second. Sixty four frames would be considered slow motion; eight frames for high speed.
4. Yellow. As a rule if a yellow filter and panchromatic film are used together, freckles in the final print will be invisible. If, however, this does not remedy the difficulty, the only recourse is retouching the negative or print.
5. The velocity of light transmission is about 186,300 miles per second. If you answered correctly within 10,000 miles per second give yourself 10 points on this answer. There is not a camera shutter in the world that would know the difference.
6. Chiaroscuro. Quoting from Mr. Mortensen's book "Notan (a Japanese term) means the pattern formed by the various tones in a picture. Chiaroscuro (an Italian term) means the distribution of lights and shadows in a picture."
7. Magenta. The magenta relief positive is the second positive made in this process; the blue green is first and the yellow is the third.
8. Avoirdupois. This system is commonly used in English-speaking countries for weighing of photographic chemicals.
9. One-ninth. The numerical relation between two and six is stated in the inverse square rule: Illumination varies inversely as the square of the distance from a point source of light. The ratio of the square of two to the square of six is one-ninth.
10. Farmer's reducer. This formula may be found in practically all photographic hand books; it may be used for decreasing density in over exposed negatives without any appreciable increase in grain.

Our Book Shelves

How To Make Good Movies. Published by the Eastman Kodak Co., Rochester, N.Y. 230 pages, cloth bound, \$2.00

Here's a new book which should be welcomed by every amateur movie maker whether he is young or old in experience.

There are 230 pages packed full of information which does not befuddle the reader with a maze of technical terms, pie charts, diagrams, and other such brain twisters. It's written for the tyro, or his more advanced neighbor, who wouldn't give two hoots to know how film is made, how it is processed—or even why—but has yearned for helpful ideas on taking and showing trouble-free home movies.

The book is generously illustrated—not by the works of Hollywood's ace photographers with their keen technical knowledge and numberless "props"—but with enlargements made from the films of amateur movie makers, along with others which may be made by mother, father, junior or sister.

Here's just a brief idea of what you will find in "How To Make Good Movies":

Focusing is briefly yet amply cared for while exposure is dealt with from A to Z. After reading this chapter you probably won't need it, but for good measure and additional aid, pocket size exposure guides—one for regular daylight Kodachrome and one for Type A, for artificial light, is packed with each book.

In the language of the amateur, film, filters and lenses are thoroughly explained, the latter excellently illustrated with movie shots made with the several accessory lenses discussed.

Composition, the bugbear of many amateurs, is effectively but simply handled and should prove to be very helpful to the amateur who is really interested in improving his movies to the point where his friends will say, "Gosh, that's a swell shot."

Then, there's a chapter on Kodachrome, beautifully illustrated in color. "Movies at Night" sheds the light of day upon nighttime filming—not only in the home,

but out-of-doors and in sports arenas. "Trick Shots" goes the limit with all the many stunts which can be accomplished with the ordinary movie camera. "Play Making" not only tells you how to film little movie skits but also gives several outlines assuring easy filming and enjoyable showing.

"Titling," an important factor in adding interest to home movies, first describes the several ways to avoid making unnecessary word titles, then explains how to make, or have made, important and effective titles. "Showing Movies" recognizes and clarifies the need for devoting the same forethought to the screening of pictures that you give to their taking.

These are but a few of the main chapters. There are dozens of sub-chapters ranging from the filming of travel movies, demonstration of camera angles to the making of "dolly shots."

Considering its value to the amateur movie makers, "How To Make Good Movies" is very modestly priced at \$2.00. It will be in the hands of dealers late in August.

Practical Photography Series, Numbers 1, 3 and 9, by Frank R. Fraprie. Published by American Photographic Publishing Co., of Boston, Mass. Approximately 100 pages, 5¼ x 7¾ inches, paper bound, price 50c each.

No. 1—The Secret of Exposure

No. 3—How to Use and Choose a Lens

No. 9—Practical Retouching

These famous booklets need no introduction to photographers. Thousands of copies have been sold through repeated printings and there is no better test of a book's value than its continued sale. The material in these books has been completely revised and brought up-to-date, thus making these new editions more valuable than ever. The booklets are designed for the amateur photographer and those troubled by the subjects listed above will find their clear explanations the solutions of their problems.

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Rate: 6 cents a word; minimum \$1.50 each insertion, prepaid.

Items advertised in these columns may be purchased C.O.D. subject to examination and C.O.D. subject to ten days free trial if sent by express. If in doubt, safeguard yourself.

OUTFITS FOR SALE

◆Graflex D $3\frac{1}{4}\times4\frac{1}{4}$, R. B., Cooke 2.9 lens, $6\frac{3}{8}$ " pack adapter, case. Excellent condition. A real bargain, \$97.50. H. D. Wheeler, Angwin, Calif.

◆ $6\frac{1}{2}\times8\frac{1}{2}$ Graphic Cycle camera and Goerz lens; $8'\times8'$ Background outside show case; 11×14 Studio camera, 48" bellows; Six Portrait lenses; 5×7 lens, \$8.00. 2 trimmers. National Studio, Bucyrus, Ohio.

FOR SALE OR EXCHANGE

◆Graflex $3\frac{1}{4}\times4\frac{1}{4}$. Perfect condition. Cut film magazine, carrying case, Cook Ultra Speed F:2.5 lens. Cost \$300.00. Trade for F, G or IIb Leica, Enlarger, Developing Tank. Address M. G. S., Care Camera Craft, 425 Bush Street, San Francisco, Calif.

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◆Elmar 90mm. lens, Vidom finder, other Leica accessories. Smith, 4514 East 50th, Seattle, Wash.

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lenses, binoculars, microscopes. No storage charges. All loans good for one year. H. Stern Inc., 872 Sixth Ave. (at 31st St.) New York. Bonded pawnbrokers since 1858. Unredeemed bargains available.

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By George Allen Young, Editor of Camera Craft
25 cents from your dealer or

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Ninth Chicago International Salon

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ADOWS ON SNOW

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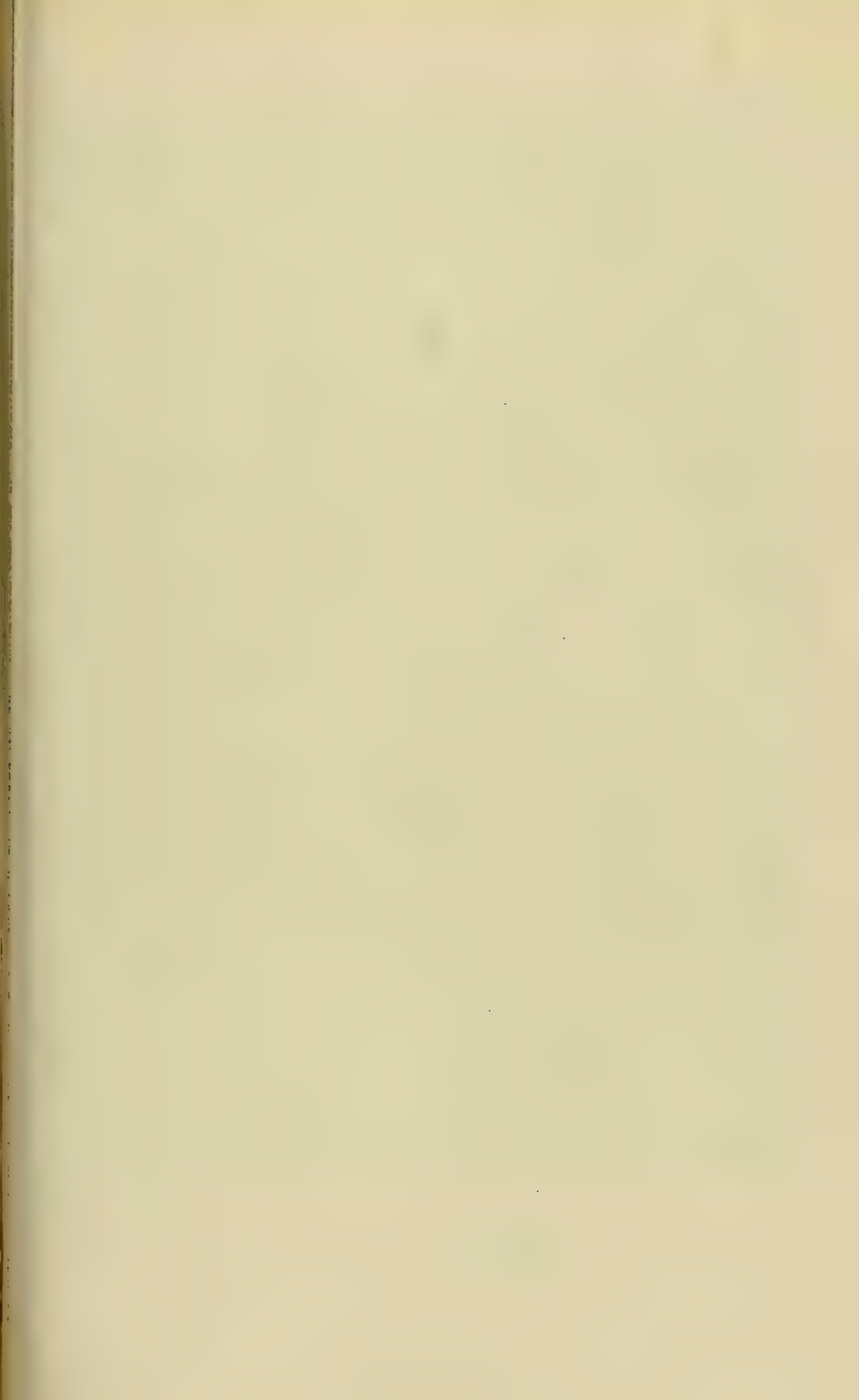


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"Homeward"

Princess E. V. Arenberg

Ninth Chicago International Salon

Shadows On Snow

H. W. Wagner

TINY shadows make texture. Delicately graded shadows reveal roundness and modeling of forms. Long cast shadows build up (or tear down) a desired pattern or composition. To take advantage of shadows in picture making by photography, the camera must see them when the exposure is made.

Writers recently have offered much timely advice against blind following of the old sun-over-your-shoulder rule in outdoor photography. Figures 1 and 2 illustrate the great divergence accomplished by practice in accord with—and contrary to the older rule for amateurs. Favorable comments could be made for “shadow-less” high key effects on snow (see Figure 1) as well as in portraiture and still life, but the modern tendency of many is to prefer striking and dramatic shadows. Figure 2 exposes all of the three functions of shadows mentioned in the first paragraph—texture, modeling, pattern.

There is only one significant variable as between the two results pictured, and that is position of light. This exact comparison would be difficult to secure with a natural outdoor subject. One would have to wait, between exposures, until the sun had approached a half circle of swing through the sky with camera in the same position and with subject in the same condition. The lesson, however, is obvious, as applied to lighting and viewpoint for natural subjects. The pictorial value of Figure 2 might have been enhanced by deeper “snow” and by a few well placed drifts, but the wife’s kitchen supply of sugar was limited at the time this ski field was built.



Fig. 1. A "sun-over-your-shoulder" photograph. Source of light was one small bare photo-flood bulb without reflector, supported close to the rear of the camera. Exposure was 20 seconds at $f:22$ on 9×12 cm. Agfa Supersensitive Plenachrome cut film, no filter, through a 15 cm. Heliar $f:4.5$ lens.



Fig. 2. "So Far, So Good." Exposure data all the same as for Fig. 1, but with the photo-flood bulb located beyond the subject to back-light it, lens shaded. Both prints on contrast glossy paper.

While back lighting yields the most dramatic effect, it often is not necessary for the most pleasing picture. Various degrees of side lighting many times prove quite adequate, especially when the sun is low. Practically right angle side lighting existed when the film for Figure 5 was exposed. The print shows much snow texture at the left of the roadway. Also when the sun is high and its rays make a sharp angle with an inclined bank or other snow surface, texture and modeling can be seen and recorded from almost any viewpoint.

When major shadow forms are to be emphasized, texture frequently may be ignored. In fact, lack of texture may be beneficial by simplifying the scene. In Figure 3, texture is relegated to a minor position at the bottom, on the slush ice. Angle of the sun's rays was such as to reveal practically no texture on the snow bank: diagonal shadows, bent and curved by contours of the bank, are the feature of the picture.

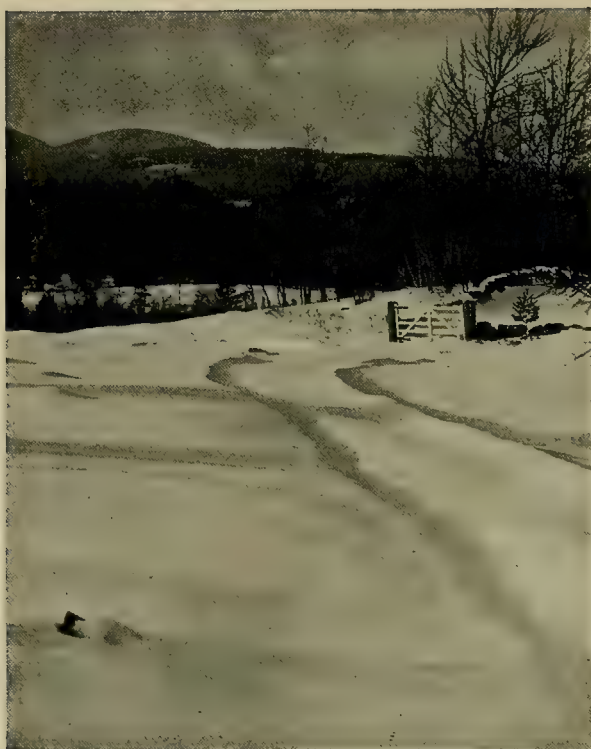
Two major pictorial problems are encountered when taking cast shadows.

One problem is to obtain sufficient "vertical" expanse without including some discordant element. A low viewpoint on a flat field produces obnoxious foreshortening. The requisite is a large angle between the optical axis of the camera and the surface photographed. For close-ups, tilt the camera downward. For more distant views, carry a long tripod and look for a high area on which to set it. Or seek shadows on a hill, slope or bank.



"Spring Thaw"

H. W. Wagner



*Fig. 4. Data: 1/50 sec. at f:16 on Agfa Superpan Press 3 1/4 x 4 1/4" cut film, no filter, 3 p. m. in January, moderately bright sunlight, 15 cm. Heliar f:4.5 lens. Weston exposure meter reading on bright snow was about 400.**

Figures 1 and 2 exhibit another advantage of the steep angle of view. An illusion of looking up hill is created, although the scene was constructed on a horizontal table top.

The other problem is to compose long shadows into pleasing lines and bands. This is largely a matter of viewpoint, or of selecting the time of day when the shadows run in a suitable direction. Straight horizontal lines are much less attractive than diagonal and curved lines. Cover the roadway of Figure 5 with your thumb and note how uninteresting the remaining shadows are compared with those featured on Figure 3. Spacing, rhythm, simplicity and dominance of one or a group of shadows are some of the other aspects to be studied when selecting point of view.

Some amateurs are puzzled concerning the proper occasion on which to apply a filter. This uncertainty exists because there is too much tendency

*Figures 4 and 5 are presented as a technical experiment, not as a pictorial achievement. If one were to seek a picture from either negative, he should trim between the gate and sky line and should remove enough of the sides to eliminate the lower left bump and most of the bare tree branches to the right of the gate. Discarding the distractions would contribute to the unity of roadway and gate.



Fig. 5. Data: 1/5 sec., with Corning HR yellow-red filter; all other data same as for Fig. 4. Both prints on contrast glossy paper. Both negatives well matched for average density after same development in D76.

to try to follow instructions in "the book," and too little effort spent on careful comparison of the fruits of controlled experimental exposures, with interpretation in terms of the individual's methods of manipulation. By all means study the literature, but check the ideas so gained, by practice.

We read that the Eastman K3 Wratten yellow filter is obsolete and tends to over-correct with modern emulsions. In terms of my methods, effect of the K3 is so moderate that a lighter yellow filter is not worth while. The K3 or a somewhat more potent yellow-red filter is attached to the lens when the scene appears a bit dull and needs vitalizing. For instance, when the sun is hazy, either one will make the print fib a little in saying that the light was sharper.

Figures 4 and 5 are from a practical experiment. Notice, in Figure 5, how the yellow-red filter has increased contrast, making the shadows more apparent. Blue light, from the upper sky, in the shadows was absorbed by the filter, making them come darker relative to the sunlit snow. The filter also has brought the woods to life because it has admitted or rejected certain elements of color in the vegetation. This property frequently may be utilized to advantage when vegetation appears in a shadow scene. For

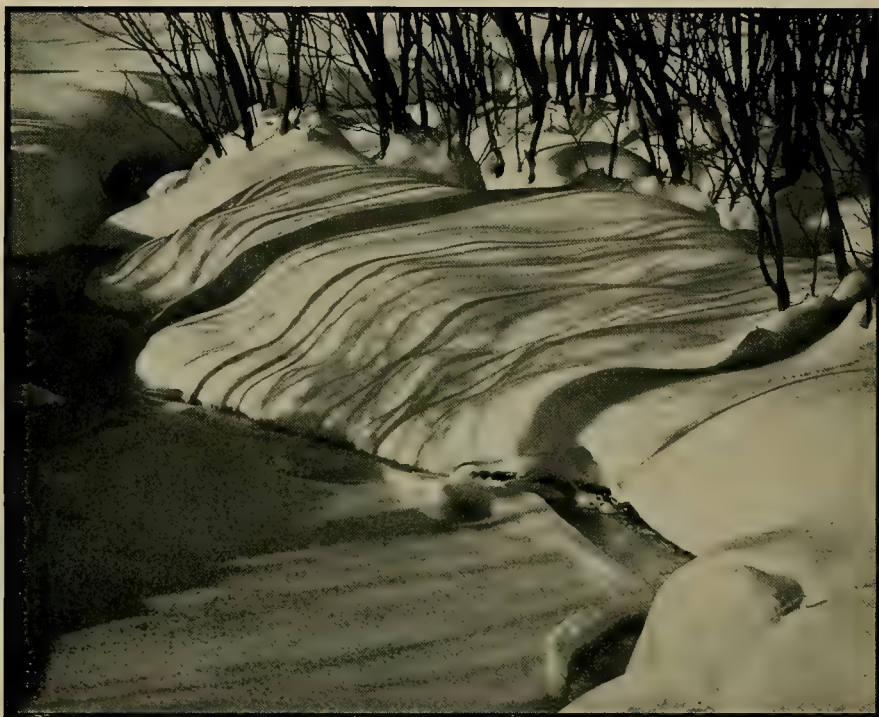


Figure 3. "Banked Shadows." Shadows cast by bushes on the left are featured. The central cast shadows and the lower right gradations reveal modeling. Data: 1/25th sec. at f:32 on Agfa Superpan Press 3 1/4 x 4 1/4" cut film; no filter; 9 a. m. in January; sharp sunlight; 15 cm. Heliar f:4.5 lens.

example, if a tree trunk contains color which an available filter will favor, the tendency for that tree trunk to come sooty on the print can be relieved.

One can readily observe a dull scene brighten by looking through an orange or red glass or film. The Eastman Filter Test Chart is recommended for such purpose. But do not be bound by the combinations of filters and negative emulsions advised on the chart. Exercise your freedom and judgment in aiming at photographic tones desired, even though those tones do not mean scientifically true color correction.

Incidentally, one who has read "the book" may wonder why the sky of Figure 5 did not come darker relative to the snow. The answer is that the sky near the horizon was hazy, lacking the clear blue which a yellow or red filter can darken to a marked extent. This situation is very common at low altitudes.

Two exposures also were made on Supersensitive Plenachrome film, with the same set-up as for Figures 4 and 5, one without filter and one with the K3. The K3 produced effects similar to those from the yellow-red filter, but less pronounced, especially on the vegetation. Other experiments, with Eastman Supersensitive Panchromatic film, have yielded similar relative results from the two filters.



"The Staggering Snow Fence"

H. W. Wagner

Caution is advised concerning universal application of filters for snow shadows. When the sky is deep blue and the light is hard and sharp, the shadows are likely to come dark enough with a bare lens. A filter can make them too heavy, or devoid of a pleasing transparency. The shadows of Figure 3 already are heavy, perhaps too heavy. The maker believes that yellow or red filtering here would have been detrimental. Also, the filter, by cutting haze or by brightening distant objects as in Figure 5, can destroy suitable atmospheric perspective or rob the picture of valuable simplicity or mystery. When one is in doubt, the safe procedure is to expose with and without the filter.

Many highly successful snow pictures are made without the aid of direct sunlight. The majority, however, are taken under sunlight and shadow conditions. Present treatment has been only for the latter situation. And only some of those phases which seem most important have been discussed. Problems as they arise will yield to study, experiment and judgment on the part of those who desire to record the charm of texture, modeling and pattern on snow; and who are fortunate enough to live in regions where snow abounds during the winter season.

Diffusion Rather Than Confusion

Hillary G. Bailey, F.R.P.S.

IT IS the ambition of every painstaking photographer to employ the characteristics of the many photographic instruments and materials at his service to the making of a picture which will look as he wants it to look. Since there is no such thing as absolute factual photography, even though the term is used at times for want of a better descriptive phrase, every picture is a departure from the perfect record depending upon the intent and skill of the craftsman.

Among the many, easily controlled methods for obtaining varying effects is diffusion. Opinions may differ about its virtues but that too is a matter of personal choice. In fact, it is not possible to state when diffusion should or should not be used. Nor is it possible to say how much diffusion is or is not good taste. For that matter, there are several types, no two of which give the same effect. When to diffuse, how much and what sort are individual matters to be decided by the preference and taste of each workman. Fortunately, there is no formula. One may do as his own pleasure directs.

There are two general types of diffusion and many ways by which each may be achieved. There is the diffusion secured when the negative is made, and the diffusion effected on the print. Sometimes diffusion is confused with emulsion recording. Occasionally panchromatic films have been said to give more diffusion than other types. This is not true if the lenses used have been color corrected. In portraiture, for instance, panchromatic films give softer contrast to the skin tone areas than orthochromatic films, providing, of course, both films have been developed to the same degree of contrast. But, softness of contrast and diffusion are not the same thing.



"Peggy's Cove, Nova Scotia"

Carl N. Sanchez, Jr.

Ninth Chicago International Salon

Contrast has to do with the relation of lights and darks. Diffusion has to do with definition.

Soft-focus diffusion as rendered by a specially ground lens for the purpose and out-of-focus diffusion have a very different quality even though the two are very often confused with each other. The diffusion which comes from a soft focus lens has a firm, sharp image around which there flares innumerable other images which flow into each other without abrupt edges. Out-of-focus diffusion has no firm, major image but is "mushy" in all areas and to most persons very annoying. If any rule can be advanced in regard to diffusion it would be that out-of-focus diffusion is never good photographic technique. It destroys texture, and photography is and should be permitted to remain supreme among the graphic arts in its ability to record texture.

Images obtained through the use of a soft focus lens may vary in the degree of their softness and in this respect they offer an opportunity for selective definition and subsequent image emphasis. With such lenses the amount of diffusion may be controlled by the size of the lens aperture. If some sort of diffusion disc be used in connection with a sharp lens, the degree of definition depends upon the nature of the disc, and the manner with which it be used.

There are many types of auxiliary lens attachments which may be used if diffusion be desired. It is always wise to purchase those designed

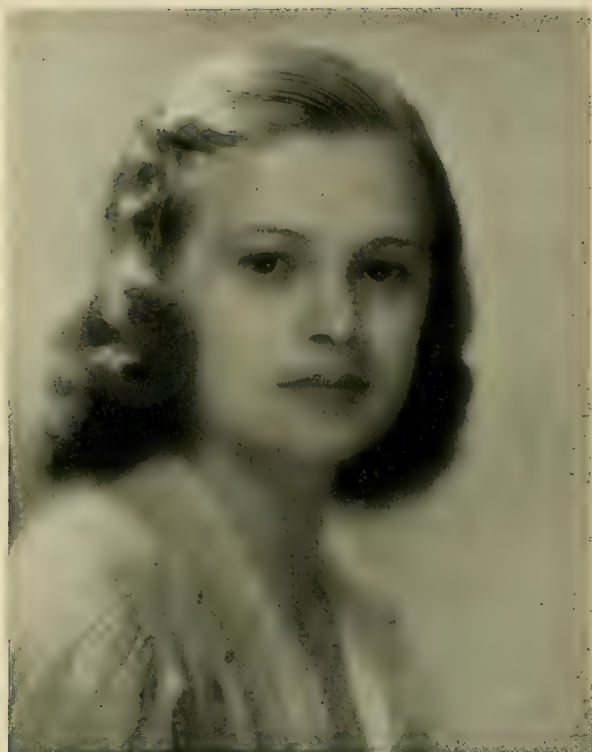


Slight Diffusion

and supplied by the lens manufacturers, but if and when that is not easily accomplished, there are several home made gadgets which may be used advantageously. For instance, a thin piece of crumpled celluloid may be smoothed out and placed over the lens and held in position with a rubber band. The waviness of this crumpled material, even after smoothed out, will provide a large amount of diffusion. To reduce the amount a hole can be cut in the center of the crumpled surface. The size of the hole in relation to the aperture size will control the degree of definition. It is best to have several such gadgets, each with different sized holes in them so that a desired degree of diffusion may be selected according to the amount of "lens stopping down."

Some photographers are well pleased with the diffusion effects they get by using a piece of black silk crepe over the lens with a hole in the crepe of such size to provide a prescribed amount of diffusion. Black crepe, however, will demand an increase of exposure and that is not always desirable.

Selective diffusion may be secured to soften the edges of one item in a picture area without disturbing the sharp definition with which the lens pictures another if a diffusion material be stretched over a frame and placed a foot or so in front of the lens rather than in contact with it. Then, by cutting a hole in the material where diffusion is not wanted, it is possible



Extreme Diffusion

by a little experiment to secure some very pleasing selective diffusion effects.

But if the negative be made sharp, it is still possible to secure a type of diffusion on the print. Another piece of crumpled celluloid may be held between the lens and the print when making a projection, or a clear piece of film may be inserted for part or all of the exposure between the film and the paper when making a contact exposure. The degree of diffusion will be controlled by changing the amount of exposure in either case in which the diffusion material is employed. With this method it is also possible with a little practice to superimpose a soft image over a sharp one, and still have an effect different from that made by a soft focus lens on the negative.

Local diffusion is much more difficult to obtain as a rule on the print than on the negative for those areas of the print where diffusion is desired are underexposed too often in comparison with the areas which remain sharply pictured. That does not mean, however, it can not be done. It is more difficult to do.

Of course, diffused prints from a sharp negative may be made by projection through a soft focus lens. However, this method has a tendency to spread the shadows into the highlights, and many do not care for the effect.

Types of diffusion are more easily pictured than described with words. The photographer may profit, therefore, by experimenting with several types of diffusion and select the one which suits his fancy.

The New Eastman Films And Champlin Developers

Harry Champlin

THREE new films have recently been placed upon the market by the Eastman Kodak Company for the miniature camera worker. These three films complement one another. Each one is for a specific purpose and each is excellent for that purpose. That is as it should be in these days of specialization.

Panatomic X is a slow, fine grain film with far more brilliance than regular Panatomic, which it will properly supersede. The grain structure is finer by approximately one-fourth. The speed, when developed, in either Champlin formula 15 or 16, is greater and the developing time is the same. This film should be used wherever there is little contrast. This includes aerial photography, flat-lighted portraiture, and copying colored objects, pictures, etc. The color sensitivity is excellent.

Plus X has a wider range of usefulness because it has more emulsion speed and, with normal development, will not yield so much contrast. Negatives, made with Plus X, will have brilliance and gradation. The speed is approximately twice that of Panatomic X and 50 per cent greater than Super X when developed in either formula 15 or 16. The grain structure is noticeably finer than Super X and compares favorably with regular Panatomic. This is the best of the three emulsions for average use. The color correction is excellent.

Super XX, the third of this trio, is a special purpose film recommended only in extremely poor light conditions or where relatively high shutter speeds must be used. The speed, when used with either formula 15 or 16, is exactly twice that of Plus X and the grain structure is slightly larger. The contrast is less and there is a slight amount of fog in the emulsion. This is a characteristic of all ultra-rapid films. Super XX is not recommended

for average work, although there will always be a certain group of photographers who will use this film because it is fast and not because they want quality and brilliance and gradation in pictures. The best way to test any group of films—one against the other—is through a series of exposures. I have made such a series in my laboratory. The exposures were all made at 1/125 second ranging from f:2 to f:16, and then three exposures were made, one at 1/250, one at 1/500 and the last at 1/1250 seconds. Three of this series of exposures were made upon each roll of film. During the exposure period, the light was measured carefully and proved constant. After exposure, each roll was cut into three parts, one of which was developed in an ordinary developer, one in Formula 15 and one in Formula 16. The developing times had been determined by prior tests and each emulsion was developed for its correct time. The results were surprising.

Neither Panatomic nor Super X have the brilliance and quality of the new films and the grain structure is not so uniform in the older emulsions. In fact, so noticeable was the difference that cartridges of films were obtained from other sources with different emulsion numbers and expiration dates. The experiments were repeated, but the results proved to be the same. These results were as follows:

	Weston Speeds		Developing Times	
	Daylight		15	16
	Formula		70° F.	72° F.
Panatomic	20	20	19½ min.	8 min.
Panatomic X	32	40	16 min.	8½ min.
Super X	50	50	19½ min.	9 min.
Plus X	64	80	16 min.	8½ min.
Super XX	100	128	19½ min.	9 min.

The question naturally arises as to which of all these films is the best for average use. It has always been the opinion of this writer that you should use the fastest film obtainable, but, since the advent of special emulsions for poor light conditions, this policy needs a certain amount of modification. Of all these films, Plus X will be found to have speed, gradation and fine grain structure. Super X and Panatomic belong to an older school of emulsion making and while they are excellent films these new films have much more to offer.

SCOOP!

Beginning with the January issue Camera Craft will present an extensive series of articles by

EDWARD WESTON

the universally acknowledged guiding light of the "Pure" school of photography. Mr. Weston holds a unique place in photography. His work is acclaimed by America's leading critics—He is the only photographer who has ever been awarded a Guggenheim Fellowship. He will discuss both the artistic and the technical aspects of his work.

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A Practical One-Shot Color Back

Arthur E. Stultz

THE one-shot color back herein described is of the single mirror type and is designed to fit any of the popular 9 x 12 cm. cameras such as the Recomar, Avis, Royal, Maximar, etc. It can be attached to and removed from the camera in a few seconds and does not necessitate any alterations in the camera. Such a unit offers a distinct advantage to the serious color worker who makes color prints on paper as it yields three balanced separation negatives directly from the subject thus eliminating the rather laborious and exacting process of making separations from a transparency.

Practically all commercial color work is done with cameras of the one-shot three-color type, especially where the subject includes life. The new one-shot color cameras recently placed on the market are splendid instruments. However, many amateurs hesitate over the purchase of an expensive color camera, because of a desire to learn something of the work before making a choice. The construction of a camera such as is here described provides such an opportunity.

Most of this writing must be confined to the construction of the color unit and it will be assumed that the reader has, or is willing to acquire from other sources, a working knowledge of the principles of three color photography.

This camera makes use of the Defender Tri-Pak which is split up into two holders; the two front films on the reflected beam and the remaining film on the transmitted beam behind a standard tri-color red filter. Referring to Figure 1, light leaving the lens strikes the semi-reflecting mirror which is so coated as to reflect 60% of the light and transmit 20%, the remaining 20% being lost by absorption. The light of the reflected beam passes through the compensating glass to the holder containing the two front films

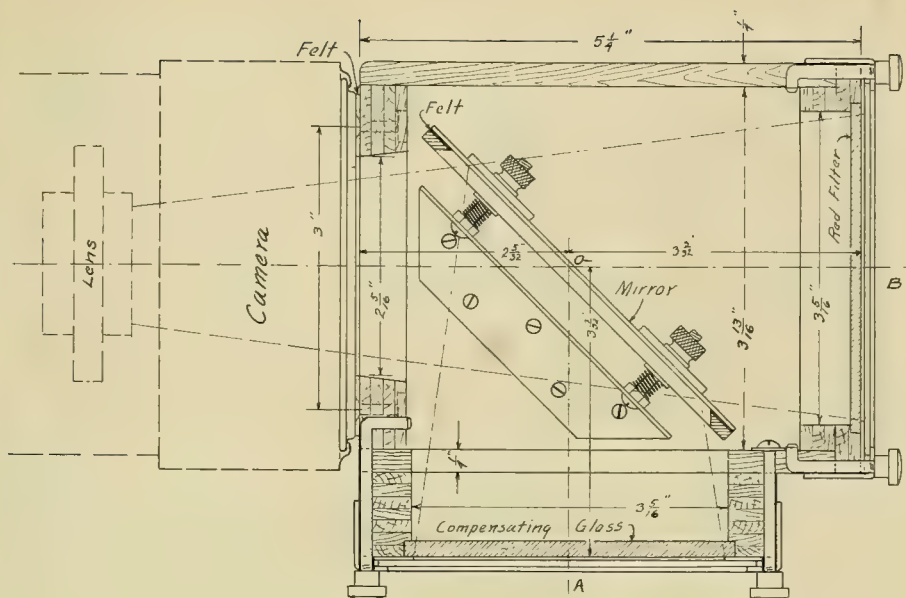


FIG. 1

of the tri-pak which are placed emulsion to emulsion. The front film, with its support side toward the mirror, is color blind and records the blue light. A yellow dye is incorporated in this film which passes only red and green light. The second film is green sensitive and by the filtering action of the front film records only green light. The film on the transmitted beam is panchromatic and yields a red record through the filter.

It is necessary that the beams of light to both film holders travel through the same thicknesses of glass in order to get perfect register of the three films. This is accomplished by placing a piece of flat optical glass in the path of the reflected beam equal to the thickness of the red filter plus 1.41 the thickness of the mirror.

As specific dimensions and other data are given for the construction of this color unit, the author believes it will be of help to the reader to know where some of the materials may be purchased. The mirror is supplied by the Evaporated Films Corp., 436 W. State St., Ithaca, N. Y. It is known as their Special Tri-Pak Mirror coated on 1.25 mm. glass. The Jana glass filter and compensating glass may be obtained from the Fish-Schurman Corp., 250 E. 43 St., New York City.

The drawings and photographs are largely self-explanatory. Before beginning construction, study the diagrams and determine the dimensions of each piece that goes to make up the box. The front and back ends of the box are made of plywood. For the sake of stability, the bottom piece should be made of $\frac{3}{8}$ in. mahogany or oak. The side section carrying the film holder on the reflected beam is built up of pieces of plywood laminated together to obtain the proper thickness. Well seasoned magnolia is recommended for the two sides and top.

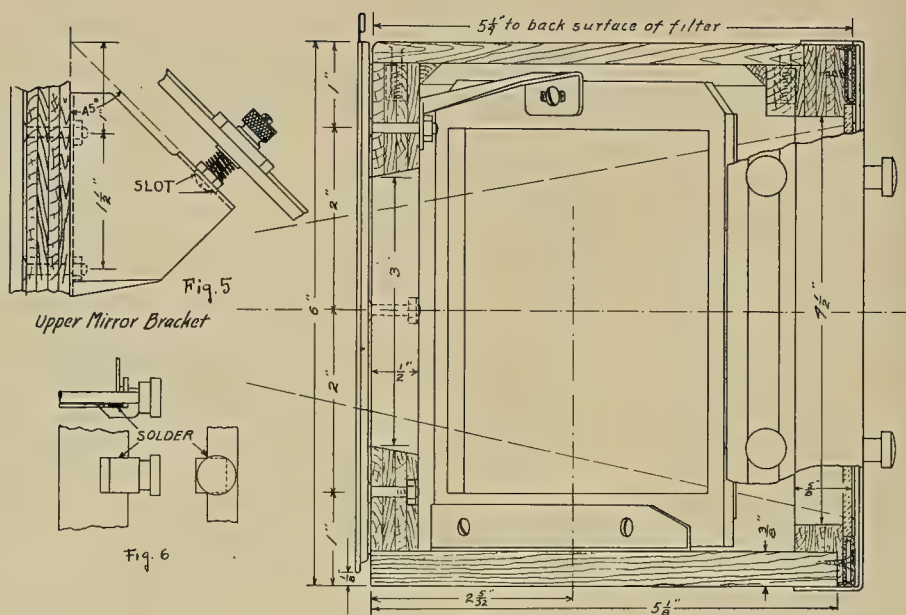


FIG. 2

Since it is essential that the sensitive surfaces of the films in both holders be equidistant from the point O, Fig. 1, it is advisable to mark lines in the bottom of the box corresponding to the center lines of the two light beams and also a line at 45 degrees corresponding to the reflecting surface of the mirror. These will aid later in establishing the position of the mirror. It is essential that the box be made as true and accurate as possible. If the reader has no power saw, he should have the pieces cut out at a wood-working shop. After making sure that all joints fit perfectly and that all dimensions are correct, the box is put together with glue and small wood screws. The holes for the bolts that fasten the plate holder frames to the box are best left until the frames are completed.

The film holder frames are identical and are made of $\frac{3}{4}$ in. brass angle stock. Fig. 3 shows the pattern to be followed for laying out the angle stock for cutting. A block of hardwood $4\frac{5}{16}$ in. x 6 in. should be cut to act as a form for bending the brass. After the rims are bent into shape and checked for accuracy, the overlapping joints are brazed and finished off with a file. A welding shop will do this for you reasonably if the frames are taken to them already bent and shaped. The narrow side strips, B, Fig. 3, are cut from 16 gauge brass. This allows about the right space for the plate holder to slide in. The side strips and rectangular piece A are soldered into the rim. A sliding lock is attached to the top of the frame to hold the film holders in place. After the whole unit is completed, the frames may be chromium plated. It will be noted that no allowance is made for the thick-

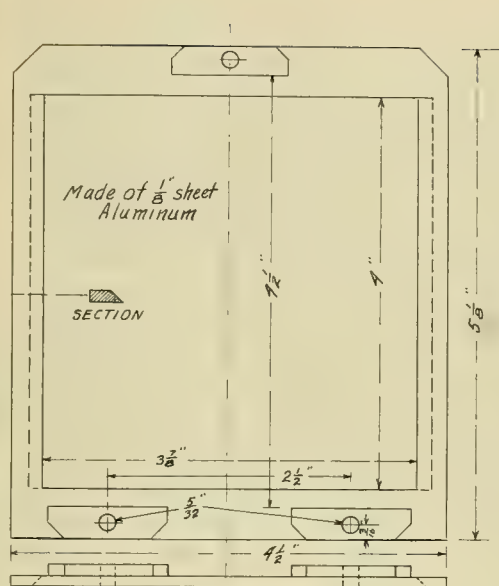
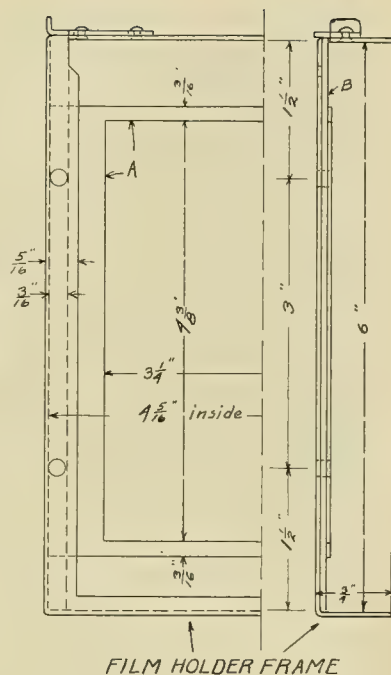
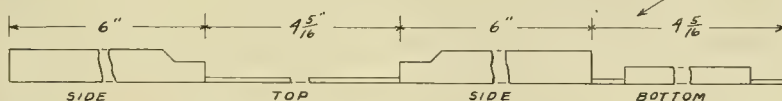


FIG. 4 MIRROR FRAME
MIRROR SIZE $4\frac{1}{2} \times 4\frac{1}{2}$ "



FILM HOLDER FRAME

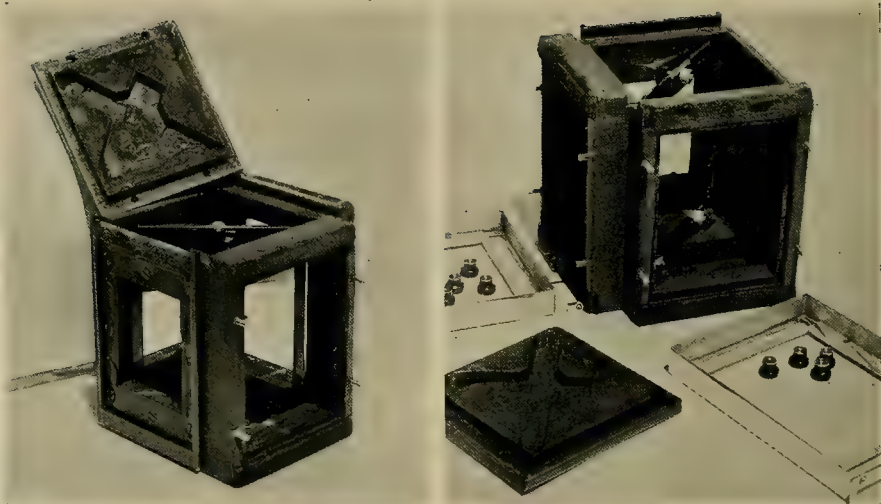
FIG. 3



ness of the covering leather. This is best arrived at by working down the edges of the box where the frames fit on with sandpaper when the box is ready to cover.

The mirror frame, Fig. 4, is cut from $\frac{1}{8}$ in. sheet aluminum. The cleats at top and bottom are soldered on with aluminum solder, or some of the "sticks all" cold solder now on the market will do. The stock mirror furnished by the firm herein mentioned measures $4\frac{1}{2}$ in. x $4\frac{1}{2}$ in. The bottom and top edges of the mirror come flush with the inside edges of the cleats; the side edges extend to the edges of the frame. The frame should be perfectly flat so that the mirror will be free of all stresses. The holes are made $\frac{1}{32}$ in. larger than the mounting bolts to assure that the frame moves freely when adjustments are made.

The three point suspension mounting for the mirror enables it to be brought into the correct position by adjusting the three knurled knobs. To avoid the possibility of breaking the mirror, it should not be attached to the frame until the mounting brackets are in place and the frame is found to slide freely on and off the bolts. The lower mounting is made of $\frac{3}{4}$ in. brass angle stock. It will be necessary to cut off some of the upper edge of the bracket to prevent interference with the light rays from the mirror. The



The color back partly assembled.

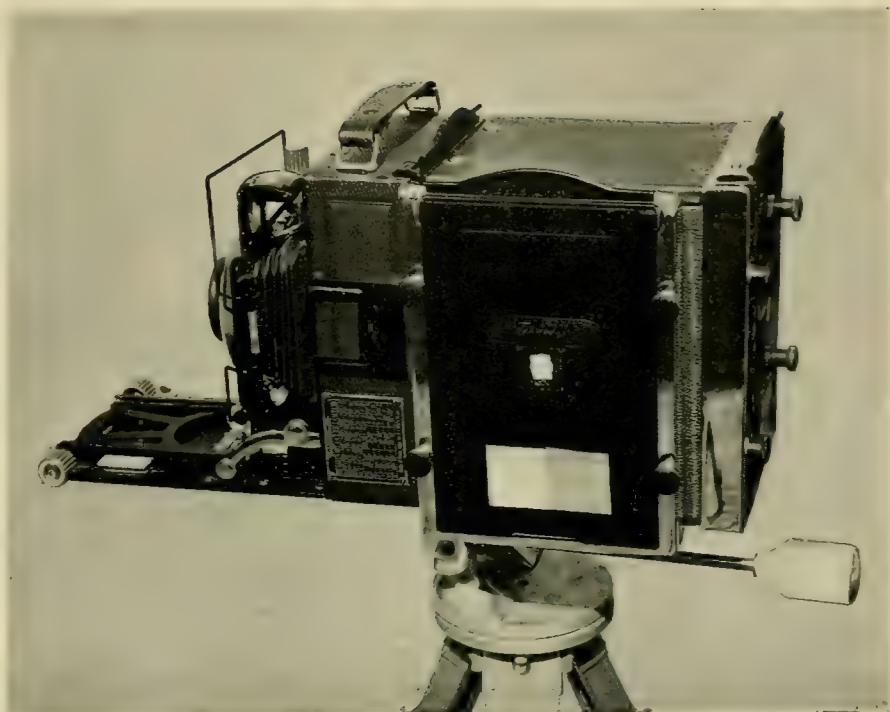
upper mounting bracket, Fig. 5, is made of sheet brass. A slot should be cut for the mirror mounting bolt as shown so that it may be brought into alignment with the hole in the mirror frame.

The frames are secured to the box by means of hook bolts made of $\frac{1}{8}$ in. brass rod as indicated. Holes for the ends of the hook bolts are made slightly smaller than the bolts so that they must be forced into place. Slots are cut in the edges of the box deep enough to allow the hook bolts to be driven down even with the surface of the box. After the bolts are in place the slots may be filled with plastic wood.

This camera uses the Voigtlander holders. A slightly different arrangement will have to be made in order to accommodate the Recomar or similar holders. Fig. 5 shows how a small addition may be made to the plate holder frames to prevent the overlapping flange of these holders from striking the rubber knobs.

A good grade of plush must be put at the top and bottom of the plate holder slot to form a light trap. Fig. 2 shows how this is accomplished. Strips are cut from a celluloid draftsman's triangle into which three counter-sunk holes are drilled to fasten them to the box. A piece of plush of the proper size is put under the strip, the screws put in place, and then the loose end folded back over the strip. Several trials will have to be made by working down the wood under the strips until the plate holders slide in with the right amount of resistance. The loose ends are finally glued at the top or bottom as the case may be.

The cover is fastened on with oval headed screws that screw into short pieces of threaded brass tubing sunk into the tops of both end pieces. The photos indicate the manner in which a plateholder is attached to the



The completed color back attached to camera.

front of the box. The Voigtlander holder is best suited to this purpose on account of its heavier construction. After the box is covered with leather, a felt pad is put between the holder and box to prevent light leaks. The plate holder should be placed so that the bottoms of the camera and color unit coincide when the unit is in place. If the builder wishes to use a tripod with tilting top having two camera screws, a threaded steel plate may be mortised into the bottom and right side of the box so that both color unit and camera may be secured to the tilt top. The position of the plates will, of course, have to be determined for the user's particular camera.

The builder will have to be left much to his own resources on the matter of covering the box with leather. He should secure for this purpose the thinnest grade of morocco leather of the kind used by book binders. Ordinary woodworker's glue may be used provided the surfaces to be joined are first given a coat and then allowed to partially dry so that the leather will remain in place when applied to the box. The underside of overlapping joints should be sandpapered thin to give a neat appearance.

When all other work is completed the builder may mount the mirror to its frame. Strips of thin felt are glued to the back surface of the frame to form a pad that will prevent any irregularities in the frame from distorting the mirror. The mirror is mounted with its *coated surface toward the lens*. This is in contradiction to the way ordinary mirrors are used, but a

double image will sometimes appear on the side film if the mirror is mounted otherwise, due to reflections from both the front and back surfaces of the mirror. With the mirror in place, strips of opaque Scotch tape are bound around the edges in the manner that lantern slides are bound together. The binding should not be too tight, lest the mirror be distorted.

Before the mirror is put in place for final adjustment, all inner surfaces of the box are given a coat of dull flat black stain. Camera dealers supply a preparation for this purpose. The mirror is then brought into a position to coincide with marks previously put on the bottom of the box. These will show through the stain if they are made heavy. Check all measurements and angles as accurately as possible by mechanical means. The final test is, of course, an actual shot of some subject with a lot of fine detail and a comparison of the completely processed and dried negatives on a retouching desk.

In order to use this unit, a lens of about $8\frac{1}{2}$ in. focal length will be needed. If the user's regular lens is removable and a suitable lens of this focal length can be substituted, he has the ideal arrangement. However, good results may be obtained by using a supplementary lens that will increase the focal length the required amount. The instruction sheet supplied with Tri-Pak gives the necessary information on loading and processing. The films are made to give correct color balance with mazda or photo-flash light. A Wratten 86-B filter gives correct balance in daylight.

The film holders must be loaded with a piece of thin, clear glass in front of the films, and if the holders are not already so equipped, some sort of pressure plate must be devised to hold the films flat against the glass and in strict optical contact. A film sheath with the turned up edges trimmed off will serve this purpose in some types of holders. Focusing is done with the regular camera ground glass inserted in the side of the camera. The ground glass should be reversed in its holder to compensate for the thickness of the glass used in the plateholders.

If all measurements and workmanship have been accurate, no trouble will be experienced in getting perfect register of the three films. However, if this is not the case on the first shot, some slight adjustment may have to be made on the mirror in the direction which the lack of register indicates. The films must be perfectly dry before any comparison can be made as they are coated on bases of different weights and an unequal expansion occurs during processing. The object, of course, is to have the length of each light beam the same. If they are not, the image on the shorter beam will be slightly smaller than the other. With the distance from the lens to B, Fig. 1, remaining fixed, the distance O-A can be made shorter or longer by tightening or loosening the mirror adjusting knobs.

In making positive prints by projection for any of the various color printing processes, care should be taken to have each negative at as nearly the same temperature as possible when the print is made. That is, do not "cook" one negative in the enlarger while focusing and framing the picture and expect it to register with the others that have not been subjected to so much heat. Allow the enlarger slide to cool off before making the actual print. A "cold light" enlarger is ideal for this purpose.

What About Large Size Kodachrome?

Nestor Barrett

KODACHROME in cut film sizes has not yet been available to the general public long enough to allow any precise conclusions to be arrived at as to its possible ultimate field of use, but this is a good time to discuss certain preliminary considerations which will confront every one who wants to use it in his work or hobby.

The manufacturers state that it is proposed to supply the color film in sizes which include $2\frac{1}{4} \times 3\frac{1}{4}$, $3\frac{1}{4} \times 4\frac{1}{4}$, 4×5 , 5×7 , 8×10 and possibly 11×14 . Thus nearly everyone will be able to find a size to suit his camera, provided of course it is adapted to using cut films, as this is the only form in which it will be issued.

One of the first things to consider as we approach the use of a new film is the problem of exposure. All the information which has been collected to date on exposing Kodachrome has been based on its use in miniature cameras or in connection with amateur movies. And this information will not be much comfort to the large camera user when he analyzes it as we shall see presently.

My own experience with Kodachrome has been largely acquired through the exposure of some thousands of feet of the 16 mm size. The most important lesson I have learned, and it has become a steadfast rule never to be broken insofar as I am concerned, is never to use a stop smaller than f:5.6. There may be others who will question this rule, but it has brought me success, and that is all that matters to the individual in the final analysis.

The shutter speed is constant on the movie camera at $1/30$ of a second. Now the point is this; if the average landscape fully and flatly lit on a bright Summer day requires an exposure of f:5.6 at $1/30$ of a second, what does this mean to the amateur using the 5×7 cut film.

If he works at f:5.6 he will find himself confronted with a problem

which never entered the minds of his minicam and movie shooting colleagues, and that is the problem of depth of focus.

The two inch lens on the minicam can be operated at f:5.6 almost without giving depth of focus any consideration, but the $7\frac{1}{2}$ inch lens on the 5 x 7 camera will present a very narrow field when opened to this aperture. The problem will, of course, be more aggravated when using the 8 x 10 and 11 x 14 sizes, but these latter films will probably not find much use among amateurs.

So we see that it will be essential to stop down if we want sufficient depth of focus and this means longer exposures. At f:6.3, $1/15$ of a second, at f:8 about a fifth of a second and so forth.

The slower exposures will be perfectly all right for landscape and general outdoor pictorial work as long as there are no moving objects in the foreground. Quite a lot of color film has been used on flower photography and the new technique will require that a time be selected for this work when the air is still, as any movement in the object will tend to blur the image at low shutter speeds.

Having done a considerable amount of sports photography, particularly on the football field, I remember vividly the day when black and white films were much slower than they are today. It seems only yesterday, and, indeed, it is only yesterday that a speed of 1300 H & D was considered the ne plus ultra, whereas today films are available with the phenomenal speed of 8000 H & D.

That was before the miniature camera gained ascendancy and solved by indirection, as it did at first, the problem of speeding up films by supplying lenses of enormous aperture with such short focal lengths that depth of focus and depth of field could be forgotten. But eventually the film makers caught up with the lens makers as they always have and made the exclusive wonders of the miniature available to all who owned cameras of whatever kind or vintage.

Now the dawn has come again for we garden variety camerists who still must struggle along with our larger size outfits, and the first step has been taken to give us the advantages of Kodachrome color in sizes we can use. And again we will have to adjust ourselves to the slower film speed for the time being, using all the tricks we used when we had to get along with slow monochrome films.

One of these tricks which we should remember is the use of the swing backs and rising and falling fronts which view cameras nearly all have. These two features will work wonders in bringing a series or row of objects into focus at comparatively large stops.

Another help in outdoor portraiture with color film is a reflector similar to those used in the movies. A handy size is two feet square with a hinge in the middle so that it folds into a space one by two feet in size. Covered with tin foil or white paint it can be used to throw the sun's rays into shadowed places, making very attractive outdoor pictures. It also results in stepped up exposure time due to the extra light thrown into the picture area.

Experience with 35 mm Kodachrome has shown that enlargements to very great sizes can be made which show practically no grain due to the



"Polar Bears"

Alex J. Krupy

Ninth Chicago International Salon

inherent chemical and physical characteristics of the reversed image. If this quality was so pronounced with the small film, how much more may we expect from the big sizes? Contact prints should approach very closely to perfection in detail, and photo murals on a monumental scale should be possible showing no trace of graininess.

Summarized, the benefits of the new film should be two-fold and reciprocal. The amateur will find new vistas and greatly widened horizons opened up in which to explore his hobby, and the film makers will benefit not only in the narrow financial sense, but broadly from the great improvement which is sure to be developed in their product as the result of the cumulative experience and inventive genius of the myriad of minds which will be focused on the problems of its use and adaptation to the universal demands of the photographic art.

The films come packed in boxes of six sheets. With the film is supplied a gummed shipping label, an envelope containing six extra interleaving sheets of paper, a direction sheet and a coin envelope.

At the present time all processing will be done at Rochester, New York, the cost of which is included in the price of the film. Three or more sheets will be processed at one time without extra charge. If it is desired to have less than three sheets processed an additional charge of fifty cents is made to cover extra cost of handling.

Especially valuable articles on the exposure of Kodachrome, etc., appeared in the March, September, and November, 1938, issues of *Camera Craft*.—Ed.

So You Want Help, Eh?

J. H. Sammis

WHEN Johnny was a mere youth he was told that the way to find out was to ask questions—that is, he was so informed by everyone but his immediate family who very early in the game and wearied of the Baby Snooks sequence. And while Johnny later forgot most of the advice he had heard during adolescence, such as “Save your money” (he later became a cameraddict), he never forgot about asking questions.

So today we find our young hero well launched on the sea of photoqueries. He haunts the camera shop counters, lingers on and on after camera club meetings, devours the question and answer departments of the periodicals offering such service, and floods the mails with penny postcards to manufacturers asking questions that can't be answered with form replies (or just can't be answered). But Johnny doesn't seem to learn from all the questions he asks. He is becoming more and more convinced that those in the know are withholding esoteric secrets to keep from overcrowding the top brackets of ace photographers. Their answers don't make sense—the manufacturers won't answer what he asks but always turn around and ask him questions so they can answer him, but by this time he has lost interest in the question and doesn't bother to reply.

If Johnny only knew it, a good answer has as a prerequisite, a good question. Many a real question has gone unanswered because the questioner has not had the consideration to carefully think out his question. In fact, many questions are self-answered when one sits down and calmly organizes his difficulties. Knowing what one doesn't know, is sometimes the means to knowing it. It's too bad this sounds so involved, because we think we're going to get somewhere in a few more lines.

Another prerequisite incumbent on the questioner is that of being a good listener. If someone is asked what an H and D curve means, they don't like to have the subject changed half way through the explanation, even if the questioner has discovered he doesn't care anyway. If he asks the question he should be willing to listen through to the end of the answer. If he doesn't listen to it all, he may find that the next time he asks the same person another sticker, he may get something pretty short for a reply.

And it wouldn't hurt Johnny to refrain from asking the kind of question where as soon as the answer is well under way he chimes in with the answer just to show that he isn't so dumb after all. Stealing lines is bad business, even in photography. The cutting in part, is bad, too. A few "Yeah, I know that, but what gets me is . . . 's " and a willing helper soon realizes what he is up against and usually ends up with an "Uh huh, it's quite a problem" and there is Johnny in an unlight-struck fog.

Johnny could well afford (if he really wants to know, and isn't just making conversation) to set down a few well chosen commandments for questioners, and then religiously abide by them. They could go something like this:

- I. He who asks should listen. Thou shalt be a good listener.
- II. Thou shalt think out thy question well before thou asketh it, yeah, even unto writing it out completely. In so doing, so may ye answer thine own question to the sweet satisfaction of thine inner self, and to the relief of thy photographic friends.
- III. Thou shalt not ask to tell, but to be told, and shall hold thy tongue until the last faint answer stoppeth.
- IV. Thou shalt ask only of him who knoweth whereof he speaks, and then thou shalt abide by what he sayeth until a new formula comes out, and then thou canst ask of somebody else.

What Is Your Photographic I. Q. ?

This month there is a slight variation in the method used to check your photographic I.Q. Instead of giving a choice of four answers to a question, a statement is made and you determine whether it is true or false.

The scoring, as before, is as follows: 90% or better, excellent; 80% is very good; 70% is fair; below 60% there is no comment.

The ten following statements are either true or false. Check the one which you think is correct. Ten points are deductible for each error. Correct answers will be found on page 586.

1. An old photographic maxim is "Expose for the highlights and let the shadows take care of themselves."
True..... False.....
2. In pinhole photography, it is evident that the diameter of the pinhole does not affect the size of the image.
True..... False.....
3. In studio portrait photography, using color film, an effort should be made to use flat lighting.
True..... False.....
4. Photographs made by infra-red light require the same focusing as those made with usual daylight.
True..... False.....
5. In the darkroom, the developer in the tray will remain the same temperature as that of the room.
True..... False.....
6. Prints fixed in a plain hypo bath will be as permanent as those fixed in an acid hypo bath.
True..... False.....
7. It is a known fact that only short focus lenses will produce distortion.
True..... False.....
8. In photographing flowers, a gray background is preferable to one of black or white.
True..... False.....
9. Paraphenylene diamine, if left exposed to warm damp weather for a few hours, will show no chemical change.
True..... False.....
10. The following formula is used to intensify the silver image on thin negatives: Water, 32 oz., hypo, 4 oz., alum, 1 oz.
True..... False.....

Cinema Section

Edited by

William A. Palmer

Put Continuity In Films Of Children

OF ALL the uses to which amateur movie equipment is put, the filming of record pictures of children as they grow up can give the most satisfaction in later years. Movies of places visited during travels are very valuable in bringing back memories, but they cannot be compared with the priceless value of a good record of a child's growth taken at intervals from infancy to adult years. This obvious truth has prompted many suggestions in this and other magazines that parents keep a systematic film record of their children, exposing a few feet every month, so that in later years the entire growing up process can be shown on the screen in a period of minutes.

Many parents become owners of motion picture equipment primarily because of the arrival of a new member of the family and for the first year are quite religious about taking frequent "progress" pictures. But then often the interest in filming wanes and more thought is given to the cost of film involved in taking pictures than of the scenes that could be obtained. This is especially true after the child is six or eight years of age. Physical changes are more gradual at this period and pictures taken at intervals of several months look very much the same. Typical scenes in many family reels are unimaginative shots of the young child staring into the camera lens as he takes a few moments off from the important task of getting dirty in the shortest possible time.

Sometimes, in an attempt to get action, the young son or daughter is made to walk toward the camera or ride his tricycle toward it. But this too often is the extent of the film planning used, and soon new scenes taken in the same way no longer seem worth the price of film. It doesn't seem to occur to many that taking movies should be different than making box brownie snapshots.

Children are by far easier and more natural moving picture "actors" than are adults. If a child is only allowed to be himself he will put on a performance that will be thoroughly convincing on the screen. Therefore, why not do a little film planning and exert a little effort to make films that more than a mother could love?

There are several plans that can be followed in making pictures of children that will lead to films that your friends will even ask to see a second time. All planned films, of course, will take more time than the pot-shot variety, but the Christmas Holidays, when the whole family has a few days at home, is just the time to make filming a major sport. The children, particularly, will go into a moving picture program with gusto if the film plans involve the use of some of their new Christmas toys as properties.

As a guide to the type of short film of children which can be made without too much difficulty, the following ideas are suggested in the hope that some of them may help you figure out a good continuity for your own children.

Plan I—Adaptable particularly to children under 3 years of age.

Make a picture showing a day or part of a day in the life of the child. To be most effective the film might be taken always from the child's viewpoint. The picture could follow the child through an entire day, showing the waking up, the bath, breakfast, morning play, lunch time, the afternoon nap, daddy arriving home, evening supper, the bedtime story, and to bed. Taking the scenes from the child's viewpoint or as he sees things, means mostly close-ups and low angle shots. Adults should be shown mostly in hands and feet close-ups.

The period of the day can be restricted to an hour or so and the event of that time shown. For example, a picture could be made showing a mother taking the child on a shopping trip. The diversity of interests could be brought in to lend a little spice to the continuity. Mother would be shown looking at the latest in dress ensembles while the child is completely unimpressed, then the child would have an overwhelming desire to inspect the city rubbish disposal units. Of course, the toy shop window before Christmas is a natural to show the child's animation and interest, particularly if a shot can be obtained from inside a store showing the child's nose pressed against the window pane. A sequence could be introduced in which the child becomes temporarily lost by clinging to the wrong skirt in a crowd. The shopping tour sequence would end with the tired child being brought home asleep in Mother's arms.

Another shorter film of the period of one meal would be good for a younger child. The film could be titled with different courses indicated, as if it were a very formal society dinner. Each of the various foods could be given flowery French names to make a humorous contrast to the rather plain looking baby food served. A finish might show the child after a session with a very heavily jellied piece of bread which had been consumed in part, the remainder showing externally.

Plan II—Adaptable to children 3 to 6 years of age.

This would be a "Bring 'Em Back Alive" type of production involving "stalking" the child at play and obtaining shots while he is completely oblivious to the camera's presence. This is a good deal easier when a telephoto lens is available, for naturally the camera must be far enough away or in such a position that it cannot be heard. Shooting from inside the house to photograph the child out in the garden would be a good plan. The easiest way to get good action is to hide some object or prize out in the garden in a good position for filming and tell the child about it. Then as he looks for the hidden object another member of the family can give him clues by the "hot" and "cold" method and the camera can record the action unnoticed. A good study of facial expression should result when the prize is finally located.

Plan III—The Night Before Christmas.

This plan involves "stop motion" work and is good for those with a camera equipped with single frame exposure device. A single frame exposure device is not essential, however, for practically any camera can be made to take single frames by giving quick taps on the starting button. The story would show the child hanging up the Christmas stocking and going to bed. He falls asleep and starts to dream as indicated by a lap dissolve to the next scene as Santa Claus is seen to appear in the fireplace. The lap dissolve should be quite slow and should bring in the scene of the empty fireplace while the image of the sleeping child is still lingering faintly. Santa Claus can be made to appear in the fireplace by running the camera on the scene for a few feet and then stopping it while the person dressed as Santa takes his position. Then the camera is started up again and Santa climbs out. The camera must, of course, be on a tripod so as to remain absolutely motionless during the time that Santa takes his position. Another variation would be to bring Santa in view by means of a very quick lap dissolve which, if skillfully done, would be very effective. Santa, of course, has his bag of toys with him which he places on the floor and motions for the toys to come out. They do so under their own motive power apparently, perform a short parade and then take their places under the Christmas tree. Santa stands by smiling and, when all is ready, walks back to the fireplace, lays his finger alongside his nose and in a puff of smoke he vanishes. The scene dissolves back to the child asleep but with a smile. It is dawn and he awakes, rubs his eyes, jumps out of bed and runs into the living room to find the toys just as in his dream.

Here is a suggested shooting scrip for the above scenario:

Scene No.

- 1 M.S. Fade in on scene of child hanging up his stocking. He finishes, checks the fireplace by looking up the chimney and runs out of the scene. Cut to
- 2 M.S. Child climbs into bed and is tucked in by Mother. Cut to
- 3 C.U. Child lying in bed. He closes his eyes. Cut to
- 4 M.S. Mother goes to door and turns light out, then leaves room. Cut to
- 5 M.S. Outside room. Mother softly closes door and walks away. Cut to
- 6 C.U. Child lying in bed. Arm relaxes to show he is falling asleep. Slow dissolve to
(Persons not having a dissolving shutter can use the effect of blowing smoke in front of the lens to obliterate scene 6 and then start scene 7 by having smoke in front of the lens drift away and disclose the scene.)
- 7 M.S. Fireplace in living room. Santa Claus appears and climbs out of the fireplace, placing bag on the floor. He steps back from the bag but holds his eyes on it. Cut to
- 8 C.U. Santa makes a beckoning motion. Cut to
- 9 C.U. Bag on the floor. Presently the head of a doll, perhaps Mickey Mouse, appears, looks around the room and then walks out. Cut to
- 10 M.C.U. Mickey Mouse doll leads a parade of toys from the bag around to the base of the Christmas tree. (Most of the moving toys can be autos or trains so that the animation is not too difficult.) Cut to
- 11 C.U. Santa Claus standing with arms folded, smiling with satisfaction as he watches his toys. Cut to
- 12 E.C.U. Toy train assembles itself. (Wooden parts to be assembled into

- small train models can be purchased at Woolworth stores and assembled piece by piece while two or three frames are taken of each move.) Cut to
- 13 C.U. Mickey Mouse doll turns around from task of directing toys to position under tree and pauses looking up at Santa. Cut to
 - 14 C.U. Santa motions toward stocking hanging from mantle. Cut to
 - 15 C.U. Mickey Mouse turns head to look in direction of stocking and walks out of picture in that direction. Cut to
 - 16 M.S. Fireplace with stocking. Santa is out of picture but Mickey Mouse is walking toward stocking. He arrives underneath it and crouches, gives a leap and springs up into the stocking. (This scene can be done by animating the figure frame by frame until it stoops in a crouching position. Then shoot a few frames with the camera running normally while the figure of the doll is hoisted from the floor by a thread attached to the picture molding or mantle. Stop the camera just before the doll reaches the top of the stocking and place the doll in it before resuming frame by frame animation.) Cut to
 - 17 E.C.U. Mickey Mouse in stocking. Waves hand at Santa. Cut to
 - 18 C.U. Santa laughing heartily. Cut to
 - 19 M.S. Santa finishes laughing, walks over and picks up empty bag, walks back and crouches in fireplace, lays a finger alongside his nose and vanishes. (The vanishing can be made more spectacular by having a puff of smoke remain. This can be done by running the camera to the point Santa is to disappear, stopping it, and then putting a flash light cartridge on the hearth. Light the cartridge and start the camera again just as it explodes. The flash will not be recorded, but you will get a fine puff of smoke.) Slow dissolve to
 - 20 C.U. Child asleep. Smile on features.
 - 21 L.S. Sunrise on horizon. Cut to
 - 22 C.U. Child awakens. Rubs eyes, starts to get up. Cut to
 - 23 M.S. Child quickly climbs out of bed and runs out of scene. Cut to
 - 24 M.S. Door to living room. Child runs in and stops at the threshold. Cut to
 - 25 C.U. Child staring into room. Cut to
 - 26 L.S. What the child is looking at. Entire room with Christmas tree and Mickey Mouse in stocking just as Santa left it, but, of course, no animation. Cut to
 - 27 C.U. Child elated; mouths words "Oh boy!" and runs toward camera out of scene. Cut to
 - 28 M.S. Child runs up to fireplace and takes Mickey Mouse out of stocking. Cut to
 - 29 C.U. Child yelling. Cut to
- TITLE: "Mom, Dad, Santa Claus has been here!"
- 30 C.U. Continuation of scene 29. Cut to
 - 31 M.C.U. Mother and Father in bed. They are just being awakened. They turn to look at each other and smile. Fade out.

Note: L.S.—Long Shot

M.S.—Medium Shot

M.C.U.—Medium Close Up

C.U.—Close Up

E.C.U.—Extreme Close Up

Plan IV—Suitable for most any age up to 12 years.

This plan involves playing "dress up" and should be fun for most children.

The idea is to have the children dress up in adults' clothes and go through some story situation mimicking adults. The finished film will be a fine burlesque but the children should be instructed to play the part seriously. A little story for two girls with their new Christmas dolls could be filmed in which Mrs. Smith arrives with her "baby" to visit Mrs. Jones. They carefully tuck their respective dolls into beds or carriages and go about the serving of tea. All of a sudden Mrs. Jones looks over in horror toward their "babies" to see one of them leaning over the side of the bed apparently in convulsions. A "doctor" is summoned by telephone who rushes to the scene with a big black bag. Here a brother or neighbor can show off the speed of his new automobile as he rushes to the rescue. Arriving, the "doctor" takes out his watch, takes the pulse and examines the tongue of the doll and announces that the "baby" is all right, it merely had a slight case of "safetypinitus."

Plan V.

Always a good subject for short film plays with children are the well known fairy tales. They are particularly good because the children, in acting the various scenes out, know just what the completed story is. Practically all the Mother Goose rhymes are good material and the lines can be used as sub titles. Little Red Riding Hood is a fine story if there is a large dog in the family to take the part of the wolf.

Questions and Answers

Question: Are the new extremely fast emulsions available in 16mm film?

Answer: There are no 16mm films as fast as the new Agfa Supreme and Eastman Super XX in 35mm, but recently Eastman has been supplying a Super X reversal 16mm film especially for football filming. It will be available generally in stores very soon.

Question: What kind of lights should be used when filming very young babies?

Answer: Infants can safely be brought into a fairly high level of illumination if it is of the proper quality. Very much diffused light is best and can be most conveniently obtained by directing the lighting units up to the ceiling. Diffusing screens over the lighting units can be used also, but in no circumstances should bare lamps be used. The baby should be brought gradually into the brighter light. They should not be turned on suddenly when the baby has been used to the dimmer light of an ordinary room.

Question: Is it possible to photograph a theatrical movie screen?

Answer: Yes. With super sensitive film and an f:1.9 or f:1.5 lens a fairly satisfactory exposure can be obtained in many theaters with good projection equipment. There may be some flicker caused by the shutter of the camera getting in synchronization with the projector.



"Morning"

Georgij Skrygin, Jugoslavia

Advanced Medal Print

■ One thing that every good artist knows is that fine pictures can be made from the most commonplace or unimpressive subject matter, provided it is properly handled. Mountains of breath-taking proportions, sinuously winding rivers, and what-not are not necessary to good landscape work. Often they are a disadvantage because the beauty of the actual scene misleads the photographer into thinking that all he has to do is trip the shutter. Only a trained photographer would have realized the possibilities of this scene. Most would miss it entirely. Yet once the artist has captured it for us we all enjoy it. Notice the simplicity of this scene. It shows the play of light on a delicate tracery of leaves, against a beautifully arched sky. The rest is unimportant, acting simply as a setting.

Data: 6 x 6 cm. Rolleiflex; Zeiss Tessar F:3.5; 1/25th sec., at F:7.5, on Agfa Finopan 17/10 Din; developed in D-76. 10 x 12" prints may be obtained at the price of \$6.00 upon application to Camera Craft.



"Hollyhocks"
Christine B. Fletcher
San Francisco

Second Award

Advanced Class

■ If this picture is compared to most of Mrs. Fletcher's work which has been previously reproduced in these pages or elsewhere, it will afford an interesting example of the difference between a more or less modern treatment of a flower subject and the conventional style. Such a comparison may also help the reader to realize that it is the way the artist "sees" the subject which makes the difference, not the technical manipulations employed. Mrs. Fletcher has not departed from her usual technique in making this picture and yet it has a distinctly modern feeling. The strict modernist would probably place a bit more emphasis on texture and all-over focus, but the feeling is here just the same.

Data: 5 x 7 Century View; 7½" rectilinear lens; 7 secs. at F:22 on 4 x 5 E. K. Portrait Pan., in D-76; combined daylight and Mazda; 11 x 14" print on Agfa Brovira, in Amidol.



"In the Mountains"
Vlado Cizelj
Jugoslavia

Third Award

Advanced Class

■ The mist and the dark background give this picture an eerie quality that enhances the interest. Observe how the composition is strengthened by the fact that the strong leading line set up by the figures is echoed by the line of the crevasse and is carried on by the distant snow-covered ridge. The eye is then released at the rim of the mysterious region beyond. One might wish that the figure nearest the camera had been removed before making the picture. The landscape is the more effective picture material in this case and this figure, because of its nearness to

the camera, takes too much attention away from the landscape. The small patch of snow in the upper left catches the eye unduly and should be removed.

Data: 10 x 12" bromide prints may be obtained at the price of \$6.00 upon application to Camera Craft.

Second Award

Amateur Class

■ This material has been nicely arranged and well photographed so that textures are adequately maintained. The principal difficulty will be apparent to all. The strong contrasts in the upper right pull the eye away from what should be the strongest part of the picture. We can see no way out of this difficulty except by trimming in from the right until the wheel itself rather than its shadow cuts the right side of the print, with enough trimmed from the top to re-establish print proportions. Admittedly this robs the picture of a good deal of its present punch, but it does set up a much more satisfactory composition. It might be possible to achieve enough correction by considerably lowering the tone of the light portions in the upper right, especially toward the corner of the print. We doubt however if such correction can be carried far enough without appearing too obvious.

Data: $2\frac{1}{4} \times 1\frac{5}{8}$ " Duo Six-20; 1/25th sec. at F:16, on E. K. Panatomic in Edwal 12; 11 x 14" print on E. K. Vitava in D-52.



*N. M. Smith
Detroit, Mich.*

Third Award

Amateur Class

■ Ferris Wheels apparently have a considerable fascination for photographers and the reason is not hard to find. They offer a series of interesting radiating lines that are self-contained by the circumference of the wheel. These radiating lines can therefore be photographed for pattern without the lines getting out of control and running out of the picture. Mr. Marks has selected his camera angle with good judgment, and has been quite successful in setting his sky tone so that he gets adequate contrast for both highlights and shadows.

Data: Leica; 50 mm. F:3.5 Elmar; 1/60th sec. at F:6.3, on DuPont Superior in Edwal 20; Red filter; 11 x 14" print on E. K. Kodabrom in D-72.



*Norman Marks
Sacramento, Calif.*



"Shut In"

Gordon M. Tranter
Calgary, Canada

Fourth Award

Amateur Class

■ The appealing expression of the two dogs affords fine picture material. Notice how the dog on the right obtains dominance in the picture through being more fully shown, through being in a stronger light, and through being placed in a stronger position in the picture space. The picture might have been a bit more effective if it could have been shot on a brighter day, but on the whole it appears that Mr. Tranter has made the most of his opportunities. The "T" formed by the fence on the far side of the pen is unfortunate, but its distracting qualities have been minimizing by throwing it out of focus. It would be possible to eliminate the horizontal line by adopting a higher camera angle, but this would leave the vertical line less well explained, and would not be as satisfactory for the dogs.

Data: $3\frac{1}{4} \times 4\frac{1}{4}$ " Graflex; 1/50th sec. at F:8, on E. K. Portrait Pan., in DK-50; dull day, 3 p.m. in October; 11 x 14" print on Agfa Portrait Enlarging Rough Ivory.



"Entwining Design"

Henry M. Mayer
Cleveland, Ohio

Fifth Award

Amateur Class

■ Mr. Mayer shows a fine feeling for line and design in his selection and arrangement of this material. In this respect his picture is ahead of anything in this group with the possible exception of the first award. The picture is reminiscent of the effects seen in Japanese prints and to a lesser degree in certain etching techniques, and we believe that it was this quality which led Mr. Mayer to work for extreme contrast and an almost two dimensional effect. Without raising the question as to whether echoes of other mediums are desirable in photography we wish to point out that the pure tone of the paper base is almost always unpleasant in photography, especially so where large areas are involved. In etching where such an effect would be far more logical one does not find blank highlights, and the etcher considers the fact that his medium avoids that condition as one of its definite advantages. We therefore feel that this picture would be improved if at least a small amount of tone were present in the snow areas.

Data: 11 x 14" bromide print.

CAMERA CRAFT

Monthly Competitions

Scoring for Club Trophy Cups

The following won prizes for their clubs in the Advanced Class: Frank A. Halliday, for the Calgary Photographic Society; Georgij Skrygin and Vlado Cizelj, for the Fotoklub Zagreb; William Hart, for the Pack Rats; and Mrs. C. B. Fletcher for the Photographic Society of San Francisco.

The following won prizes for their clubs in the Amateur Class: Gordon M. Tranter, for the Calgary Photographic Society; Henry M. Mayer, for the Cleveland Photographic Society; N. M. Smith, for the Detroit Camera Club; and Glen Fishback and Norman Marks, for the Sierra Camera Club.

STANDING OF CLUBS

Large Clubs Advanced Class		Small Clubs Advanced Class	
Fotoklub Zagreb	43	The Pack Rats	35
Fort Dearborn Camera Club.....	32	Denver Lensmen	14
Fotoklub Ljubljana	23	Calgary Photographic Society.....	5
Photographic Society of San Francisco..	8	Yellow Springs Camera Club.....	5
Photographic Society of India.....	5	Aluminum Camera Club.....	3
Miniature Camera Club of New York.....	1	The Camera Clique.....	2
Large Clubs Amateur Class		Small Clubs Amateur Class	
Sierra Camera Club.....	24	Calgary Photographic Society.....	15
Cleveland Photographic Society.....	19	Taft Camera Club.....	14
Detroit Camera Club.....	10	Lancaster Camera Club.....	5
California Camera Club.....	6	Hocking Valley Camera Club.....	4
Photographic Society of San Francisco..	6	Riverside Pictorialists	4
Camera Club of Richmond.....	5	Utica Camera Club.....	4
Miniature Camera Club of Oakland.....	4	E.P.I.C. Pool of California.....	3
Fotoklub Zagreb	3	San Jose Camera Club.....	2
Photographic Society of India.....	2	Kamera Kranks	1
		Norfolk Photographic Club.....	1

Contributing Clubs for the Year

*Aluminum Camera Club (New Kensington, Pa.)	Miniature Camera Club of New York
Amherst Camera Club (Mass.)	Monterey Peninsula Camera Club (Pacific Grove, Calif.)
Amsterdam Camera Club (N. Y.)	Muskogee Camera Club (Okla.)
Arizona Pictorialists (Prescott, Ariz.)	Nanticoke Camera Club (Pa.)
Bakersfield Camera Club (Calif.)	*Nassau County Camera Club (N. Y.)
Baltimore Camera Club (Md.)	Norfolk Photographic Club (Va.)
Berkeley Camera Club (Calif.)	Nutmeg Camera Club (Manchester, Conn.)
*Calgary Photographic Society (Canada)	Oklahoma Camera Club (Okla.)
*California Camera Club (San Francisco)	Olean Miniature Camera Club (N. Y.)
Camera Clique of St. Louis (Mo.)	*Pack Rats (Pasadena, Calif.)
*Camera Club of Richmond (Va.)	Photo Pictorialists of Springfield (Mass.)
Camera Pictorialists of Columbus (Ohio)	Photographic Society of India
*Cincinnati Camera Club (Ohio)	*Photographic Society of San Francisco
Cleveland Camera Guild (Ohio)	Pictorial Photographers of America
*Cleveland Photographic Society (Ohio)	Portland Camera Club (Ore.)
Dayton Photographic Society (Ohio)	Queen City Pictorialists (Cincinnati, Ohio)
Denver Lensmen (Colo.)	Reading Camera Club (Pa.)
*Detroit Camera Club (Mich.)	*Redlands Photo Pictorialists (Calif.)
East Bay Camera Club (Oakland, Calif.)	*Regina Camera Club (Canada)
*E.P.I.C. Pool of California (San Francisco)	Rhineland Camera Club (Wisc.)
*Florida Camera Club (Tampa, Fla.)	Riverside Pictorialists (Calif.)
*Fort Dearborn Camera Club	*Salt Lake Camera Club (Utah)
*Fotoklub Ljubljana (Jugoslavia)	San Diego Miniature Camera Club (Calif.)
*Fotoklub Zagreb (Jugoslavia)	San Jose Camera Club (Calif.)
*Fresno Camera Club (Calif.)	Saskatoon Camera Club (Canada)
*Golden Empire Camera Club (Marysville, Calif.)	Seattle Photographic Society (Wash.)
Greater Pittsburgh Photographic Society (Pa.)	*Sierra Camera Club (Sacramento, Calif.)
Guild Camera Club (Saranac Lake, N. Y.)	St. Louis Camera Club (Mo.)
Hawthorne Camera Club (Cicero, Ill.)	Syracuse Camera Club (N. Y.)
Hayward Camera Club (Calif.)	Tacoma Camera Club (Wash.)
Hocking Valley Camera Club (Lancaster, Ohio)	*Taft Camera Club (Calif.)
Houlton Camera Club (Maine)	Tasope Camera Club (Aurora, Mo.)
*Insurance Exchange Camera Club (Chicago, Ill.)	Telephone Camera Club of Manhattan
Japanese Camera Club (San Francisco)	Toledo Camera Club (Ohio)
*Kamera Kranks (Durham, Calif.)	Toronto Camera Club (Canada)
Knoxville Camera Club (Tenn.)	Triangle Group (Cincinnati, Ohio)
Lahore Camera Club (India)	Twin City Miniature Camera Club (Minneapolis, Minn.)
Lancaster Camera Club (Pa.)	Utica Camera Club (N. Y.)
Larchmont Camera Guild (N. Y.)	Vancouver Camera Club (Canada)
Lens and Shutter Club (Chicago, Ill.)	Whittier Camera Club (Calif.)
Lexington Camera Club (Ky.)	Yellow Springs Camera Club (Ohio)
Los Angeles Camera Club (Calif.)	
*Marin Camera Club (San Anselmo, Calif.)	
Minicam Forum (Summit, N. J.)	

* Denotes clubs competing this month.



Club Trophy Cup 1938

THE WINNERS

Large Clubs—Advanced Class

**Fotoklub Zagreb
Zagreb, Jugoslavia**

Small Clubs—Advanced Class

**The Pack Rats
Pasadena, Calif.**

Large Clubs—Amateur Class

**Sierra Camera Club
Sacramento, Calif.**

Small Clubs—Amateur Class

**Calgary Photographic
Society
Calgary, Canada**

The End—The Beginning

For the fifth time we reach the annual conclusion of the scoring for the Club Trophy Cups. Identical gold cups are awarded to each of the four winning clubs listed above. The December scoring did not bring about any change in the line up of the clubs in the Advanced Class, but something in the nature of an upset occurred in both of the Amateur classes. By staging determined last minute spurts the Sierra Camera Club nosed out the Cleveland Photographic Society and the Calgary Photographic Society shaded the Taft Camera Club in what might be termed a "photographic photo finish."

Scoring for the 1939 Club Trophy Cups begins with the January issue, the judging for which takes place December 1st. Prints are judged on the first day of each month following. Clubs should remember that consistent submission throughout the year is the secret of success.

Cash Awards in 1939

In response to what appears to be the wishes of the majority, Camera Craft is now offering monthly cash awards for the first and second prizes in each class instead of the medals and merchandise orders heretofore given. The amounts will be \$10.00 and \$7.50 in the Advanced Class. \$7.50 and \$5.00 in the Amateur Class. A year's subscription will be given for the Third, Fourth and Fifth awards in each class. With the above exception the rules and conduct of these competitions remain unchanged. The competitions are fully explained in the following pages.

THE CAMERA CRAFT MONTHLY COMPETITIONS—EXPLAINED

It is well to understand at the start that the rules governing these competitions are purposely kept at a minimum, so that the competitions may be open to all without red tape and without complication. A competitor may take whatever action he desires that is not specifically denied by the rules. **Camera Craft** makes no copyright claim to the pictures which win awards, and their makers are entirely free to do with them as they wish. Do not bother to wonder if you may do this or that. You have complete liberty of action, provided only that you observe the few simple rules given below.

Rules

- Any one may enter. You are **not** required to be a member of a camera club, a subscriber to **Camera Craft**, or anything else. No entry fees. No entry blanks. No restrictions on size, or number. Mounts are not required.
- There are two classes, "Advanced" and "Amateur." These groups are judged separately, with five awards in each class, ten awards in all. The ten winning prints are published in **Camera Craft** each month.
- Prints must have maker's name and address, the class in which they are to be entered (whether "Advanced" or "Amateur") and the technical data (see below) regarding them, plainly marked on the back of each.
- Prints shall be returned only when stamps sufficient to cover are enclosed with the pictures. Do not send stamps under separate cover as it is possible they may not be connected with the identity of the sender or prints.
- Prints may be in black or sepia but tinted and painted photographs are barred.
- Prints must be in before the 1st of each month to be entered in the succeeding month's competition.
- Prints winning prizes cannot be returned.
- The object of the two classes, Advanced and Amateur, is to insure that individuals shall compete on as even terms as possible. Compare your prints with those shown as prize winners in the two classes, and decide with which group your pictures would most fairly compete. If in doubt enter first in the amateur class and then if successful move up to the advanced class. In order to insure fairness and an equal chance to all, the judges reserve the right to move prints into the advanced class if the quality of the pictures seem to justify this.

Monthly Awards—Advanced Competition

First: \$10.00 cash.
Second: \$7.50 cash.
Third, Fourth and Fifth: One year's subscription to **Camera Craft**.*

Monthly Awards—Amateur Competition

First: \$7.50 cash.
Second: \$5.00 cash.
Third, Fourth and Fifth: One year's subscription to **Camera Craft**.*

* May be presented to a friend or divided and presented to friends at this or holiday time.

Technical Data

We request that the technical data be placed on the back of each print submitted to the competition. A complete technical description should cover the following points: Size and make of camera, make and focal length of lens; exposure time and aperture used; negative material; negative developer; filter; light source, (if artificial, the number of lights and the wattage, if outdoors, the time of day and the month); paper; print developer; special treatment. By, "special treatment" we mean, any manipulation or procedure that is not covered by the above.

Selling Price For Prints May Be Stated

Many a photographer is happy to sell an occasional print, not only because of the monetary return, but because it is pleasant to know that one's work is appreciated by others. **Camera Craft** will assist in this regard by printing a selling price along with the technical data which accompanies each of the prize winning prints when reproduced in the magazine, and when they are sent out as Traveling Salons. If you are willing to sell prints for private collections please state price, print size and mount size on the back of each print. If the sale of prints does not interest you please state "not for sale." No commission will be taken by **Camera Craft**.

Club Trophy Features of the Competitions

Four Trophy Cups will be awarded to clubs making the best record in the Camera Craft Monthly Competitions each year. Awards will be made on the following basis:

1. Clubs will be divided into two groups—large and small on the basis of membership, and identical awards will be made to each of the two groups. This is to make sure that competing clubs will be of approximately the same size. Large clubs will be those whose membership is over 40. Small clubs are those with membership of 40 or less.
2. The four awards are as follows:
 - (a) To Large Club making highest total score in the Advanced Class.
 - (b) To Large Club making highest total score in the Amateur Class.
 - (c) To Small Club making highest total score in the Advanced Class.
 - (d) To Small Club making highest total score in the Amateur Class.
3. Points in each of the four divisions, Large and Small Clubs, Advanced and Amateur Classes are as follows:

5 points for First Award, 4 points for Second Award, 3 Points for Third Award, 2 points for Fourth Award, 1 point for Fifth Award.
4. Each club has the opportunity of competing for two cups. One in the Advanced Class and one in the Amateur, but individuals within the club cannot enter in both classes. Individuals may choose the class in which they wish to compete, but the judges reserve the right to change entries from the Amateur to the Advanced Class if the quality of the work seems to warrant it.
5. No individual can earn more than 15 points for his club.
6. It is well to understand that the conduct of this competition is in nowise changed by the addition of these annual club awards. Judging is still entirely on the basis of the individual print, and those who are not club members have the same chance of winning awards as formerly. The only difference is that now if a prize winner is a member of a club, his club will be credited with the proper number of points allocated for that prize.
7. Scoring for these cups begins with the January Competition, prints for which must reach this office on or before December 1st. It runs for 12 months concluding with the December competition. Prints for each succeeding competition must reach this office on or before the 1st day of the month.
8. Club name, maker's name and address, and technical description of print must appear on the back of each picture.

What a Club Should Do

- Study the rules which appear on this page and the rules governing the competition in general which appear above. ■ Appoint a committee of one or two whose sole duty will be to collect and forward prints **each month and on time.**
- Divide your membership into two groups, one to compete in the Advanced Class, the other in the Amateur. It is not required that a club compete in both classes.
- Be sure and send each month as it is the total score that wins.

Prize Winners Widely Exhibited

The winning prints in these competitions are made up into Traveling Salons and circulated for exhibition and study to Camera Clubs throughout this country. At present 140 clubs are receiving these shows so we feel entirely safe in saying that these pictures receive a wider exhibition than is possible by any other means.

IN REPLY TO QUESTIONS

1. There is no rule against entering a print in the competitions more than once, providing it has not won an award.
2. Either clubs or individuals may send a batch of prints in one package and have one or more entered each month, the group being returned when all prints have been entered. When such procedure is desired a covering letter should be sent, and the sender **MUST** mark on the back of each print the month in which it is to be entered. Camera Craft will not take the responsibility of selecting which prints from a group are to be entered in any given competition.
3. The safest means of transportation is by Railway Express, but this is more expensive than Parcel Post in most cases.

Club Notes

The New York Salon of Photography, held under the auspices of the Camera Club, New York, opened its doors to the public on October 30th, 1938, with a press and preview showing.

The show, which is the first effort of the Camera Club, New York, was received very warmly at the preview. It represents the work of the best known workers in the amateur field in this country and Canada, as well as that of a few professionals. Next year, we are told, the Club will repeat the experiment of holding a Salon, with only one change in the rules, and that is, that the Salon doors will be open to any photographer, who desires to submit prints, whether he resides in New York or Timbuctoo.

The Salon Committee feels highly elated at the success of the Salon, which will stay on show during the first three weeks of November.

Over a thousand prints were submitted. Of these about 25 per cent were accepted by the Jury, which, by the way, was composed of three pictorialists who are well known wherever photographers meet. They were, Dr. D. J. Ruzicka, Edward Alenius, F.R.P.S., and Joe Lootens, F.R.P.S.

It was interesting to see the Jury at work. First, the prints were sorted into four piles—only one print from each contributor in each pile. The entire collection was shown to the jury, one at a time. Each judge had two cards, one marked "In" and the other marked "Out." One "In" vote insured a print of a second judging, while three cards marked "Out" definitely took the print out of further judging. About 35 per cent of the prints went out in the preliminary judging. It was then lunch time.

After luncheon, the Jury got down to the difficult task of selecting 225 prints from the 700 prints, which remained. Each judge was handed ten numbers and voted from one to ten. As each print was exhibited on the easel, each jurymen held up a number, and the total was marked on the back of the print in red pencil. There was abso-

lutely no discussion among the jury—each went on his merry way voting on each print, according to his light.

No print fell into the 30 vote class. The highest score, 28, went to Gustav Anderson, who had a perfectly beautiful snow scene. The voting scored higher by prints selected as the numbers went lower. The show consists of all who got 17 or more votes. Each of the judges had two prints selected for hanging, the selection being made by William H. Zerbe, F.R.P.S.

The show, in the opinion of the writer, is of a high photographic value, both technically and pictorially and sets a high standard for succeeding Salons to emulate.

William A. Alcock,
L.L.B., F.R.P.S.

California Photographers, Attention!

Some time ago a letter was sent out by the California Commission of the Golden Gate International Exposition addressed to artists working in all mediums, and requesting submission of work for hanging in the California State building at the Fair. Certain conditions of that invitation were not looked upon with favor by photographers generally. We are happy to report that an entirely new plan has now been adopted. There will be a strictly photographic show staged in the California Building which will contain the work of California Photographers only. The show will be beautifully hung under glass and as a unit entirely to itself. The pictures will be selected by a thoroughly competent jury headed by Mr. John Paul Edwards.

Here is a project which merits the support of every California photographer. If that support is forthcoming this exhibition will surely be one of the high spots of the California Building. The closing date for entry blanks is not yet set but it will probably be late in December. Prints will not need to be delivered until some time in January.

A postcard addressed to Camera Craft, 425 Bush St., San Francisco, will bring you an entry blank containing full information.

Notes and Comments

Scheiner speed ratings for the new Eastman films have been prepared by Photo Utilities, Inc., 10 W. 33rd St., New York City:

	Daylight	Mazda Light
Panatomic X	25	23
Plus X	26	24
Super XX	29	27

New Eastman Accessories. The Eastman Kodak Co., of Rochester, N. Y., announce a **New Kodak Darkroom Outfit No. 3.** It includes everything necessary for developing and printing and supplies the items at a great saving in price over the same material bought individually. Trays are 4x6" in size and the kit contains a copy of the book, "How To Make Good Pictures." Price complete \$4.25.

New Brownie Darkroom Lamps are now offered to the amateur and, with these additions, a complete safelight outfit is now available for \$1.50. The new additions are Series 0 and 3.

New Kodaflector Diffuser is now ready and it provides softer lighting for indoor pictures. The diffuser is a white spun-glass fabric mounted in a metal rim. A bracket and U-shaped rod are supplied for attaching to the socket of a Kodaflector. Price is \$2.25 a pair and \$1.25 for a single unit.

The Mount-O-Graph is an ingenious new device for mounting prints that has just been announced by Henry Herbert, 485 Fifth Ave., New York, N. Y. The Mount-O-Graph will center all enlargements on all mounts with three simple, easy motions. See this new photographic aid at your dealer's or write the above address for the free booklet, "I Swapped My Ruler and Pencil for a Mount-O-Graph."

New Fall Catalogue of Mounts has just been announced by Hirsch & Kaye, 239 Grant Ave., San Francisco, Calif. Listing and illustrating hundreds of types and styles, the catalogue gives a complete review of available photographic mountings. Hirsch & Kaye supply a complete line of photographic equipment and supplies. See them or write them for information on the materials you are interested in.



The **Harrison Viewing Glass** is a boon to any photographer as it gives him the ability to see with the camera's eye. First, it is useful in judging the highlight and shadow contrast in a picture and, secondly, it is invaluable in selecting the proper filter for a given situation. The Harrison Viewing Glass sells for \$5.00. "The Mystery of Filters," a booklet telling the complete story of filters, is distributed for 25c. Write Harrison & Harrison, 8351 Santa Monica Blvd., Hollywood, Calif., for further details on the Viewing Glass or for a copy of the booklet.

"**Trend Of Art In Photography**" is the title of an interesting booklet that is being distributed, free of charge, by the Bunnell School of Photography, 2502 West 7th St., Los Angeles, Calif. This booklet outlines the "new ideas" that are motivating photography today and photographers will find its pages inspiring. Write for your copy to the above address.

With the presentation of the new **Craftsman 2¼ x 3¾ Enlarger**, priced at \$16.50, the Sun Ray line of enlargers is now complete. Prices for Sun Ray enlargers run from \$57.50 for the Filmaster to \$16.50 for the new Craftsman. These enlargers are all quality instruments and come complete with lenses at the prices quoted. The Sun Ray Co., 138 Centre St., New York City, manufacture a complete line of popular priced tripods, lamps, studio lights, spotlights and enlarging easels. See their line at your dealer's or write the above address for further details.

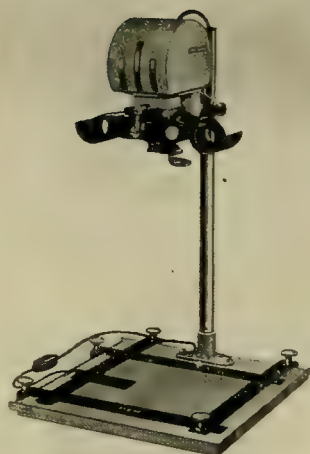
A complete line of lighting equipment designed especially for the amateur is now being featured by James H. Smith & Sons Corp., Lake and Colfax Sts., Griffith, Ind. A circular describing and illustrating this wide range of equipment is ready now and will be forwarded upon request from the above address.

Photomark is a new device for mounting prints in albums. It does not cover or mar the print in any way. Photomark is specially folded gummed tape, with a sliding tab for notes or titles. A 24 sheet album, size 9 x 12", and a package of 50 Photomarks are being offered at a special introductory price by Stutz Photo Service, Dept. CC. 12, 10858 Shoemaker Ave., Detroit, Mich.

The new **Photo Rinser**, introduced by L. G. Wright, Inc., 5209-98, Cleveland, Ohio, is an ingenious device for speeding up the washing of prints and negatives. It consists of a divided pan 1½" deep, on a pivot that is placed under the stream of water from the tap. The sides of the pan alternately fill up and empty as the weight of the water tips the pan. Thus, the prints or negatives are kept in a continuously fresh supply of water. Washing time is reduced 30 to 50 per cent and less water is needed for the process. The Photo Rinser will sell for \$1.00.

The **Turbo-Turbulator** is an agitating device for film tanks that operates from any water faucet. It will eliminate the faults of uneven development. The amount of agitation can be regulated by adjusting the stream of water from the faucet. It does not affect the temperature of the developing solution and is said to decrease developing time 20 per cent. The Turbo-Turbulator requires no attention in operation and cannot be damaged by spilled solutions. Very economical of operation, Model A, (for tanks 5½" in diameter) sells for \$6.50. For further details write to Canady Sound Appliance Co., 19570 So. Sagamore Road, Cleveland, Ohio.

The new **Argus EAE Enlarger** presents a new system of illumination, employing reflected light. This new system offers a coolness of operation, greater protection to negatives and flat-field illumination, with full brilliance to all parts of the negatives. The EAE Enlarger is also provided with a



Argus EAE Enlarger

moulded bakelite book-type film holder. Price, with framing easel base, is \$17.50.

The **Argus Photar**, a new photo-electric exposure meter, of sturdy quality and precision construction, is being placed on the market for \$8.75.

Further details on these new Argus products may be had upon request from your dealer or the International Research Corp., 210 Fourth St., Ann Arbor, Mich.

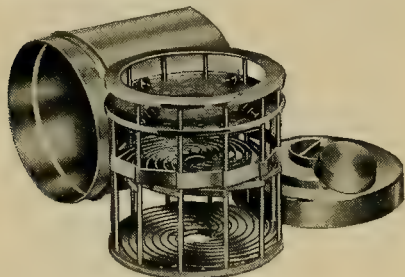
New products introduced by the **Intercontinental Marketing Corp.**, 8 West 40th St., New York City, are of interest to all photographers.

Photrix Electronic Timer automatically turns off the light when the exposure is completed. The Timer is plugged into the light socket and the enlarger or printer is plugged into it. It needs to be reset only when the time of exposure is changed. The timer permits the use of fractions of a second in exposures.

The **Diafant Projectors**, for film strips or 2 x 2 inch slides, are now available in the U. S. This quality projection equipment is presented in two models: Model 1 at \$69.00, and Model 0 at \$49.00.

The **Robot Omega Enlarger** is presented through the cooperation of the Robot distributors and Simmons Bros., manufacturers of the Omega Enlargers. The Robot Omega is similar in every respect to other Omegas except that it carries a built-in

mask to the Robot square format. For complete details see your dealer or write the above address.



New Nikor Tank for Film Packs and Cut Film. Burleigh Brooks, Inc., 127 West 42nd St., New York, N. Y., announce a new Nikor Stainless Steel Developing Tank, for film packs and cut film, that is adjustable from sizes $2\frac{1}{4} \times 3\frac{1}{4}$ " to 4×5 ". It will sell for \$11.50. You may see it at your dealer's or write for further details to the above address.

The Kaiko all-metal enlarging easel offers many special features: it is adjustable to 11×14 inches; offers flat white focusing surface; easily adjustable marginal controls; and precision-built, sturdy, all-metal construction. Selling price is \$3.75. For complete details on this and other Kaiko Products write: Kaiko Photo Products, 39 Bartlett St., Brooklyn, N. Y.

The Kemp Camera Supply Co., 127 West Main St., Alhambra, Calif., are offering two handy items to photographers.

The Kempshade, is a rubber lens shade and filter holder that may be quickly snapped over the lens mount and stays securely in place. The Kempshade is supplied in five sizes priced from 40c to 75c.

The Devel-O-Tray is a non-breakable, rubber developing tray. A built-in roller holds the film down in the tray and only 4 oz. of solution are necessary to cover the film. The tray handles any film up to $3\frac{1}{4}$ inches in width and is scratch-proof and acid resisting. Price is only 75c. Send for descriptive literature to the above address or see the equipment at your dealer's.

The New York Institute of Photography, famous photographic school, presented **Mr. Harry Champlin** to the student body. Mr. Champlin lectured on his new formula, Champlin 16, which offers many startling advances in developing technique. This lecture was one of a series planned by the

school which will present outstanding photographic authorities to the students. The school is also presenting a new course in **natural color photography**, under the direction of Mr. H. P. Sidel. Complete details on this course and other classes may be had by writing the Registrar, New York Institute of Photography, 10 West 33rd St., New York City.

Tony O. Babb

At the moment of going to press we learn with the deepest regret of the sudden passing of Tony Babb, west coast manager for the Eastman Kodak Stores, Inc. Lack of time and space make it impossible for us to pay a suitable tribute to Tony Babb at this time. We know that Tony's thousands of friends throughout this country will feel, with us, the futility of laudatory phrases. Tony Babb's place in our hearts was not built with words, but with deeds, and an all-pervading affection for his fellowmen. We know of no man in the photographic world whose loss will be mourned more sincerely.

ANSWERS TO "WHAT IS YOUR PHOTOGRAPHIC I. Q.?"

From page 567

1. False. It should be, "Expose for the shadows and let the highlights take care of themselves."
2. True. The size of the image depends on the distance between the pinhole and the film; the greater the distance the larger the image. The diameter of the pinhole only affects the sharpness of the definition.
3. True. Flat lighting is very important. The lights should be kept near the camera axis, which is an imaginary line from the camera to the subject. Avoid deep shadows.
4. False. Modern lenses are made so as to bring all visible light (infra-red is not visible) to a focus in approximately the same plane. Infra-red does not fall in this same plane; as a result, many tyros wonder why their infra-red "shots" are out of focus.
5. False. The temperature of the developer will be lower. As long as the developer is exposed to the air there is a small amount of evaporation taking place. Since the change from liquid to vapor takes a certain amount of heat, it is apparent that evaporation is a cooling process.
6. True. The reason an acid is usually put in the bath is to neutralize any alkali that is carried over from the developer which discolors a plain hypo solution. In the acid hypo there is also a hardener like alum, together with sulphite which protects the fixing agent from decomposition by the acid.
7. False. Any lens, short or long focal length, will produce distortion when used at close range. In portraiture, longer focal length lenses are used because it necessitates placing the camera farther away from the subject, thereby eliminating the possibilities of distortion.
8. True. A neutral tone, such as gray, is far superior to either a black or white background in the photographing of flowers.
9. False. Paraphenylenediamine readily absorbs oxygen from the air. After being allowed to stand open under warm damp conditions, its use in a developer should be considered hazardous. The presence of color other than white indicates that there has been oxidation.
10. False. This formula is used in the sepia toning of prints. The silver image is converted to silver sulphide.

John C.

